

American

FORESTS

APRIL, 1957

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American FORESTS

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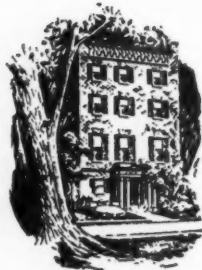
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COVER • *When we asked Fish and Wildlife Service Artist Bob Hines to do us a cover depicting the inter-relationship of renewable resources this was the result. The old sycamore (forest growth) in which Mother Raccoon and her family (wildlife) make their home is firmly established in rich bottomland (soil) next to the river (water). The red-crested woodpecker was an added touch Bob threw in for good measure.*



The AFA

The American Forestry Association, publishers of *American Forests*, is a national organization—independent and non-political in character—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and the part they play in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

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Forest Forum

Talking To Each Other

EDITOR:

Don't let Mr. Brett stop now! I for one would like to see him expand his Vermont experiences into a woodlot "First Reader." I am one of the 141,000 other people in the Northeast who owns a small woodland property and reading Mr. Brett's article gave me a very warm and friendly feeling. Another February writer who could tell us more is Mr. Kernan. His problems and successes in his "10 Years In A Woodlot" appeal to us strongly.

The February issue of your publication was of special interest to us from cover to cover and we look forward to more of the same covering parks, memorials, conservation, the weather and poems. Even the advertising was helpful and especially the hints in Mr. Brett's article on where to go for the right equipment. Give us more of the same. I thoroughly agree that we small woodland owners have much to gain by "talking to each other."

F. F. Grevatt
82 Christopher Street
Montclair, New Jersey

(Editor's Note—Mr. Brett's "Woodlot Primer" has found a receptive audience. More than 60 letters and orders for 10,000 reprints have been received since its publication last month.)

Perfect Score

EDITOR:

I am not a forester's wife but I made a perfect score on the clever quiz on page 6 of the February AMERICAN FORESTS.

How come? I read the magazine regularly even to the ads.

Mary Rankin
Memorial Home,
Warren, Indiana

(Editor's Note—It would appear to us that Reader Rankin answered her own question. Twenty-four other "non-foresters" wives also report that they hit the jackpot.)

Land Ownership

EDITOR:

I am encouraged this morning after reading your "What's News Across the Nation" in the January issue of *American Forests*. I just doubt that you could be doing anything more worthwhile for forestry right now than the promoting of a nationwide study of forest ownership patterns. Once that is accomplished, of course, then it's equally as important to push for action programs to correct our present ownership patterns that are ridiculous. It took Germany several hundred years to correct its inefficient land patterns; but if it takes us more than ten, we should be kicked in the pants.

Idaho is a good example of a state that needs outside impetus to change its forest

ownership pattern. I say that because much of the problem is with the national forests. The national forests in northern Idaho have little parcels of land scattered all over. Our state forest lands are scattered even more crazily. The person who dreamed up the idea of granting sections 16 and 36 of each township to the state for the support of various institutions certainly never had any idea of managing these lands. Apparently, he thought only of selling them.

Anyway I am very hopeful that you will work up a terrific fever in this country for straightening out the forest ownership mess. I think you're on the right track right down the middle, and I hope you will stay right there and push even harder.

Robert L. Guernsey
State Forester
Boise, Idaho

The Klamath Case

EDITOR:

In reference to your editorial "Forestry Faces A Social Problem": I want to get into any fight to make sure these Indians and their forests are protected. To whom do I write?

(Mrs.) George Stewart Brown
1310 Park Avenue
Baltimore 17, Md.

(Editor's Note—First goal was achieved last month with enactment by the Senate of a compromise bill (Senators Neuberger and Watkins) whereby termination is deferred for 18 months, except on allotted lands. This gives us time to take a careful look at the whole problem before making definite recommendations of our own or opposing other recommendations that we do not approve. To move cautiously and correctly is of paramount importance here since this case will set a precedent as regards Indians and Indian resources everywhere. By expressing their concern as to the outcome of this case to their Congressmen, Mrs. Brown and dozens of other readers will be doing a service both to the Indians and to forestry. At the same time, it should be remembered that the big effort may come later when the lines are definitely drawn on this important issue.)

EDITOR:

I must comment, and most favorably, on the editorial in the February 1957 issue of *American Forests*, "Forestry Faces A Social Problem." The Menominee Indian Reservation of Wisconsin is part and parcel of the problem. In fact I think that the Klamath and the Menominee were the two properties that were to be most affected by the Public Law 587.

In Wisconsin it would appear most desirable to maintain the type of ownership, and operation of the Menominee Forests in the present pattern. For the forests are being well treated and are productive,

and the Indians too who live by, from, and in the forests are being reasonably well provided for. It would be neither to the benefit of the Indian nor the state to disrupt the present status.

Robert A. Bailey
Saronna, Wisconsin

New Look Urged

EDITOR:

I was much impressed by Dr. Herman Chapman's letter in the February number of the magazine, about private homes on our national forests. I agree with him heartily.

It is perfectly understandable that in the earlier years the private home policy may have had its beginning. People were not so numerous then, and there seemed to be plenty of room. But for some time now many have been worried about the continuance of this policy. I remember some years ago, walking through the woods toward a lake in a national forest, and being confronted by a sign: "Private Keep Out." This is public land. And we learned that this and some other lakes were lined, on blueprints, with applications for private structures. This whole area is now a national park, and those private structures did not materialize.

There are charming lakes in parts of Minnesota, not on public land, so thickly settled with private homes that the public is barred.

Certainly public use for recreation, and interest in our public lands, has so grown, and will continue to grow, that we had better have another look at this policy. I think we have outgrown it.

Olaus J. Murie,
Director
The Wilderness Society
Moose, Wyoming

Likes Ross Leffler

EDITOR:

As a newer member of your fine association and an attentive reader of *AMERICAN FORESTS*, the high quality of material used and the manner of presentation is evident immediately. The article on Mr. Ross L. Leffler, February issue, is an outstanding achievement. After reading your article, I am sure that the "AF" readers will feel that they already know Mr. Leffler.

I have seen Mr. Leffler several times but have never had the pleasure of meeting him. Like so many of his unknown and unseen admirers, we in Pennsylvania especially, are proud and very much aware of his commendable conservation accomplishments. It would be so good for all, in this great land of ours, if more appointments to high office, were filled by capable and sincere people, like this man you have so well described.

John T. McHenry
68 Willow Street
Wilkes-Barre, Pennsylvania

(Turn to page 59)

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The private forest industry in the United States now employs about 60 per cent of all graduate foresters. Many supervise the 41 million acres of tax-paying timberlands operated as certified tree farms. *Write us, Box A, Tacoma, Washington for a booklet on tree farming, Promise of the Trees.*

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Exclusive Use or Multiple Use?

AFA forester lauded by professionals in wilderness debate; Zahniser runs into crossfire on protection phases required in primitive areas

Washington section meetings of the Society of American Foresters, which become more interesting every month, in March presented a debate on the relative merits of the Humphrey Bill between Kenneth B. Pomeroy, AFA Chief Forester, and Howard Zahniser, of the Wilderness Society, and a leading sponsor of the bill. Foresters applauded when Mr. Pomeroy said he considered the bill in its present form "an attack on the integrity of the forestry profession." Mr. Zahniser was also given a cordial reception by the foresters but was quizzed minutely from the floor as to his philosophy on control of fire and insects and tree diseases such as bark beetles and white pine blister rust in wild areas. Mr. Pomeroy's statement follows:

CREATION of a National Wilderness Preservation System, if carried in the ultimate direction of bills now before the Congress, will destroy the basic multiple use principle under which the national forests now are administered.

Before we go one step further, I wish to make it absolutely crystal clear that The American Forestry Association wholeheartedly believes in the enjoyment of wilderness as one facet of recreational use of national forests. For the past 24 consecutive years the association, through its Trail Riders of the Wilderness expeditions, has guided thousands of Americans to spiritual enjoyment of the most remote natural sanctuaries of the Rocky Mountains, the Cascades, the Great Smokies and the Superior Wilderness. Right now AFA is advertising 16 expeditions for the summer of 1957, and challenges any organization to do as much toward bringing a wilderness experience within the reach of people of ordinary means.

For four-fifths of a century the association has championed the cause of good resource management. It sparked the drive that led to creation of the forest reserves and their subsequent transformation into national forests. A former president of AFA "Tama Jim" Wilson while Secretary of Agriculture, designed the basic philosophy for national forest management. He said, "Where conflicting interests must be recon-

ciled, the question will always be decided from the standpoint of the greatest good to the greatest number in the long run." Sustained yield and multiple use are the guiding principles for achievement of this basic philosophy. Multiple use also is the basic concept of AFA's own Program for American Forestry. This program, endorsed almost unanimously in 1954 by our members in a referendum vote, contains this specific directive:

"We recommend: (1) Full recognition of the intangible values inherent in forests and forest lands and of their tremendous importance to the recreational, cultural, and spiritual needs of our people. (2) Provision for the preservation of special areas such as national parks and monuments and wilderness areas from any use that will interfere with the complete satisfaction of these needs."

Why, then, does The American Forestry Association oppose establishment of a National Wilderness Preservation System? *Because it tends to develop a legislative history in the direction of a single and exclusive use on a perpetual basis.* This charge has been denied by proponents for a wilderness system, but consider, please this letter from a federal judge to the author of one bill:

"I have read with a great deal of interest your speech delivered in the House on July 12 last in support of the bill to establish a National Wilderness Preservation System. Your speech is unanswerable and I am enthusiastically in accord with it. I have also read the text of the bill with some care, and it seems to me to be well designed to carry out the objective of preserving the wilderness areas now owned by the federal government with the minimum interference with the control of those areas by the various agencies presently having them in charge. I assume that this is as far as we could have hoped to go at the present time. The machinery of the system can, of course, be further developed as experience dictates, but the basic

thing is to establish as law the principle that these wilderness areas are to be preserved intact and this your bill will certainly do."

Yes, we certainly agree with the judge's legal opinion that the bill will "establish as law the principle . . ." And what do you suppose he meant by, "I assume that this is as far as we could have hoped to go at the present time." Let's look in the bill itself for a hint.

H.R. 500 and other companion bills provide:

(a) Inclusion in a single wilderness preservation system of the wilderness, wild, roadless, and primitive areas of the national forests; designated units within the national parks and national wildlife refuges; and roadless or wild areas within Indian reservations.

(b) Administration of the units of the system shall remain in the present Bureaus of the Departments of Agriculture and Interior. But any proposed addition or elimination of area shall be reported to the secretary of the National Wilderness Preservation Council, who in turn shall transmit the report to Congress.

(c) The council shall be composed of six citizen members known to be interested in the preservation of wilderness, the heads of the four federal agencies involved, and the Secretary of the Smithsonian Institution.

(d) The council shall make such recommendations to Congress as the council shall deem advisable.

(e) Recommendations for modification of the system shall take effect after 120 days provided neither House of Congress passes a resolution opposing such addition, modification or elimination.

Before we consider these provisions, a few questions about their effect on bureaus other than the Forest Service may be in order.

Why are Indian reservations included? Indian lands are private lands administered under a federal trusteeship and some day they will be returned to full Indian control. Is someone seeking to extend federal supervision to private lands?

And what about the wildlife refugees? I always understood that people and wild fowl were not compatible users of the same land, especially during the nesting season. Will the wilderness enthusiasts be content to stay on the outside and look in?

And the national parks, how does the proposed legislation help solve their problem? National parks were created for the express purpose of preserving unusual scenic objects for the enjoyment of the people. Yet millions of visitors pose a major dilemma. How far can needed physical improvements in each park go without damaging the natural fea-

tures that led to park establishment in the first place? Will creation of a wilderness system help solve the problem, or will it breed additional headaches?

Now, let's go back and put our finger right on that Wilderness Preservation Council. What purpose will it serve? Why can't the Secretary of Agriculture report directly to Congress, if Congress wants a report?

The Secretary already has a National Forest Advisory Board of Appeals to study and advise on appeals from decisions of the Chief of the Forest Service involving public use of the national forests.

But before any question of wilderness use ever gets to the Secretary, the Forest Service must comply with the following requirements of Regulation U-1:

"Wilderness areas will not be modified or eliminated except by order of the Secretary. Notice of every proposed establishment, modification, or elimination will be published or publicly posted by the Forest Service for a period of 90 days prior to the approval of the contemplated order and if there is any demand for a public hearing, the regional forester shall hold such hearing and make full report thereon to
(Turn to page 65)

"... Except as we manage them to be unmanaged"

(Editor's Note — *American Forests* had not received the complete text of Mr. Zahniser's talk up to the time it went to press. Reason for this is that the speaker, who spoke largely from notes, had to leave the same evening for a wilderness conference in California. In the interest of fairness, *American Forests* hopes to receive the complete text of this talk and publish it in full. Meanwhile it will report the substance of the talk as faithfully as possible.)

Mr. Zahniser told the foresters he had looked forward to this meeting more than any other. "There isn't a person in this room who doesn't believe in wilderness and the wilderness philosophy," he said. "Some of you have had an active hand in setting up or working with wilderness areas and in fact it was foresters who first made wilderness preservation a reality in this country."

However, in view of mounting pressures of almost every variety, the hope of preserving these wild areas for our children and our children's children depends on the ability of the federal government "to plan for their future on a presumption of perpetuity."

Mr. Zahniser readily admitted this type of planning must face up to the fact "of future necessity to change" but at least "what we can do, what I strongly believe we should do, is to at least perpetuate the opportunity."

Wilderness, Mr. Zahniser said, is in reality our oldest resource. At the same time it is the latest resource to be recognized by conservation and "consequently wherever we have it, we also have some-

thing else in the form of other uses. We are late, very late in recognizing this."

Today we face a choice, Mr. Zahniser continued. That choice is whether we should point toward a new Bureau of Wilderness Preservation "or continue under what we now have." The speaker said he favored the former course because wilderness and wilderness needs will require the full spotlight of public attention in the effort to save them from the encroachments that attend every expansion of the country. Foresters can and should help in this effort, he declared. Tomorrow more than today, foresters will require a "laboratory of things as they once were." Over and above that, our children should have the right to see some areas preserved, as closely as possible, the "way our forefathers knew them."

Mr. Zahniser denied categorically that the bill to establish a national wilderness preservation system constitutes an attack on the integrity of forestry. He said wilderness enthusiasts look to foresters for leadership in the protection of these areas and he cited that the Humphrey Bill does not disturb or interfere with any other use on national forest wilderness areas. At the same time, it does recommend that other uses inimical to the preservation of the wilderness character of the areas be gradually eliminated as time goes on, with the consent of the other uses involved.

Mr. Zahniser spent considerable time in a point by point description of the Humphrey Bill (printed in its entirety in the January issue of *AMERICAN FORESTS*).

He pleaded with the foresters for aid and assistance in the maintenance of our last wild and primitive areas that will gradually be lost "except as we manage them to be unmanaged."

Mr. Zahniser's talk was cordially received by the foresters but he ran into a crossfire in a question and answer period on his definitions of forest protection. In general, the foresters indicated that his answers on protection were unsatisfactory. For example, he left the impression that in wilderness areas "the little fires should be permitted to burn themselves out but that the foresters should come in on the big fires." How to judge between "big" and "little" fires seemed to perplex the foresters who observed that "little fires have a way of becoming big fires rather quickly." Foresters also seemed to be somewhat less than happy over the prospect of proper protection of insect and disease ravages under Mr. Zahniser's philosophy. Such questions as "how inviolate is inviolate" and "what does unimpaired really mean" continued for several days after the section meeting.

Christopher M. Granger, former assistant chief of the Forest Service, who was invited to comment, said that foresters, as the record shows, were warm supporters of wilderness. The danger in the Humphrey Bill he stressed is that it would set aside areas for "exclusive use" by substituting "Congress for national forest administration." This could stick a knife into the vitals of the brand of management we have previously enjoyed on the forests, he said.

ARBOR DAY



Arbor Day Association members (l. to r.); Back row, F. L. Parr, C. E. Lewis, G. F. Gravatt, V. L. Hebert, R. R. Hirt, J. C. Kenealy; Front row, J. A. Dietrich, Mrs. Wachs, D. W. Wade, C. L. Clemons, H. P. Piser



EIGHTY-FIVE years ago J. Sterling Morton dramatized planting of trees by stimulating the establishment of Arbor Day by the Nebraska State Board of Agriculture. The immediate result in that state of the initiation of Arbor Day and accompanying support programs was the planting of more than a million trees, a vast number for those days. Subsequently, other states developed Arbor Day programs. Tree planting is still inadequate. Too many people do not appreciate the value of trees. The wrong kinds of trees are still being planted on the sites available.

Inadequate care is given the planted trees and consequently losses are heavy. Many cities are faced with the financial burden of getting rid of trees which should not have been planted where they are.

The Arbor Day movement in many states needs revitalization. An Arbor Day Association can help the various agencies concerned with tree planting to correlate their activities, can obtain additional public support for tree planting and can stimulate appreciation of the value of trees.

So foresters, arborists, landscape architects, park superintendents, horticulturists, garden club members and others under the auspices of the National Shade Tree Conference held a meeting, spark-plugged by a zealous layman, Harold Piser, at Hotel New Yorker in January for organization of the Arbor Day Association. Previously this association had been incorporated with a temporary board of directors of six members and a set of by-laws.

On the first day of the meeting, Mr. Piser read a letter from the White House indicating that the

President will issue a special Arbor Day message on the first day of spring. A number of letters from state governors indicated their interest in Arbor Day. People from various states discussed different phases of the project. A number of speakers emphasized particularly the need for publicity, not only encouraging more planting but also planting the right kind of trees on the right sites and then looking after them in succeeding years.

At the final session, after electing twenty-two directors, the following officers were chosen:

Chairman of Board of Directors—Charles L. Clemons, Jr., State Landscape Architect, Montgomery, Alabama.

President — Joseph A. Dietrich, Supt. of Parks & Trees, Greenwich, Conn.

Vice President—Freeman L. Parr, Parr & Hanson, Inc. Arborists, Hicksville, L. I., New York.

Secretary—Mrs. Elizabeth Wachs, Councilman, Brooklyn City, Cleveland, Ohio.

(Turn to page 50)

Washington



Lookout

By ALBERT G. HALL

FORESTRY APPROPRIATIONS ARE NOW BEING CONSIDERED BY THE SENATE, and it is expected that the Appropriations Committee will report on the supply bill for the Department of the Interior and related agencies about the middle of April. In addition to the land management functions of the Department of the Interior, this measure includes the appropriations for the U. S. Forest Service. The House made a substantial reduction in the budget requests, lopping off \$60.8 million, but most of the cuts were made in nonforestry items. The Forest Service request for \$11,500,000 for recreation and public use in the national forests was pared by \$2,730,000, leaving \$8,770,000, which should be ample for an expanded recreational program in the coming fiscal year. A \$1,000,000 cut was made in the request for structural improvements, including employee housing, leaving an approved amount of \$7,209,600. The request for \$4,000,000 for assistance to the states in tree planting activities under Title IV of the 1956 Agricultural Act was eliminated. Purpose of the request was to provide for planting stock to convert agricultural land to forest land. The House in deleting this item indicated that it is one that could be delayed. All other increases requested by the Forest Service were approved by the House. (See tabulation of individual items in the March AMERICAN FORESTS.)

BUREAU OF LAND MANAGEMENT'S BUDGET REQUEST FOR MANAGEMENT OF LANDS AND RESOURCES was reduced by the House by \$220,000, but the approved amount is \$4,630,700 over the 1957 appropriations. The requests for the Office of Indian Affairs and for the National Park Service's forestry activities were not altered, but an over-all reduction in funds for administration may have the effect of reducing the number of Park Service forestry positions. Traditionally, the Senate has been more lenient with appropriations than has the House, but in view of the attitude of the whole Congress toward the biggest peace-time budget in the country's history, it is not unlikely that the Senate this year will sustain the reductions made by the House.

DELAY IN THE DISPOSAL OF THE RESOURCES OF THE KLAMATH TRIBE OF INDIANS has been voted by the Senate in the passage of S. 469. As passed, the bill embodies recommendations of the Secretary of the Interior in certain technical amendments to the termination act of August 13, 1954, delays any sales of tribal property until the end of the second session of the 85th Congress, extends the final termination date until four years after the signing of this measure, and authorizes up to \$1,000,000 to help defray the costs of the proposed termination. Purpose of delaying action until the end of this Congress is to provide time for reconsideration of the basic act; otherwise, sales of tribal property had been scheduled to begin after the middle of August of this year. There is little doubt that the measure will be passed by the House. Then, it is expected, a proposal for federal acquisition of the Klamath forests and other resources will be presented to the Congress.

CONGRESSIONAL INTEREST IN AN OUTDOOR RECREATION RESOURCES REVIEW is increasing. So far, eight Senators and seven Representatives have endorsed the proposal by sponsoring or introducing bills to establish a National Outdoor Recreation Review Commission to study the outdoor recreation resources of the public lands and other lands and water areas of the United States, and to present a statement of estimated needs for such resources for the years 1976 and 2000. As a fact-finding project on which future legislative and administrative action may be based, the measure stands a good chance of enactment.

(Turn to next page)

EXPANSION OF THE FOREST MANAGEMENT ACT of 1950 has been proposed by Representative Sikes of Florida, the author of the original act. His bill, H.R. 4381, would authorize the Secretary of Agriculture to furnish planting stock through the state foresters to owners of land diverted from agriculture under programs administered by the Secretary. The planting stock and the technical services necessary to the establishment and maintenance of the plantations would be furnished to the landowner without charge, and with no state matching money. Stock distribution would be based on plans prepared by the state forester and approved by the Secretary. The bill also calls for an increase in the authorization for technical assistance to landowners and processors from the present \$2,500,000 to a new total of \$15,000,000. Current appropriation for this activity is \$1,000,000 but the budget request for fiscal year 1958 is \$1,510,000. Under the present law, the states are required to match the federal appropriation with an equal amount of state funds; but the Sikes amendment proposes increasing the federal share to 75 percent. Two years ago the Department of Agriculture eliminated this item from its budget; but the Congress restored it.

LOW-COST CREDIT AGAIN IS PROPOSED FOR FARM FORESTRY ACTIVITIES in a bill introduced in the Senate by Senator Humphrey of Minnesota, with eleven co-sponsors, and in the House by two Representatives, Johnson of Wisconsin and Mrs. Knutson of Minnesota. The measure is similar in its forestry aspects to bills introduced in previous congresses. It would provide for loans up to 50 years at 3 percent interest for the acquisition and management of forest or cutover lands; loans up to 10 years at 4 percent for purchase of logging equipment; loans up to 5 years at 4 percent for purchase of capital stock or membership in supply, service, or marketing cooperatives, including timber marketing and processing cooperatives. Stated purpose is to preserve the family-size farm.

FOLLOWING HEARINGS ON WITHDRAWALS OF PUBLIC LANDS BY THE MILITARY SERVICES, Representative Engle of California, chairman of the House Committee on Interior and Insular Affairs, has introduced a revised bill to require that all military withdrawals in excess of 5,000 acres shall not become effective until approved by act of Congress. Withdrawal proposals would be required to include provisions for management of resources, particularly wildlife resources.

A STUDY OF THE COOPERATIVE FOREST FIRE CONTROL PROGRAM administered by the U. S. Forest Service in cooperation with the state foresters for the protection of non-federal lands is being undertaken for the Forest Service by the Battelle Memorial Institute of Columbus, Ohio. Purpose is to determine the value of the non-federal forest and watershed lands and the extent to which public and private agencies should share costs of protection from fire. As originally enacted, the Clarke-McNary law, under which the program is authorized, provided for the federal government to contribute 25 percent of the costs of such protection; later the act was amended to authorize up to 50 percent as the federal share. However, federal aid to the states has never actually reached the 50 percent level. To help conduct the study, three foresters have been added to the Battelle staff: J. H. Price, former regional forester, Lake States Region; George L. Drake, forestry consultant and former vice-president of Simpson Logging Co.; and A. S. Hopkins, executive secretary of the Northeastern Forest Fire Protection Compact, and former state forester of New York. An 8-man advisory group has been selected to help guide the study: Stanley G. Fontanna, dean, School of Natural Resources, University of Michigan; W. F. McCulloch, dean, School of Forestry, Oregon State College; L. J. Freedman, retired vice-president, Penobscot Chemical Fibre Co.; J. E. McCaffrey, vice-president, International Paper Co.; C. G. McLaren, vice-president, National Container Corp.; John L. Aram, assistant to the president, Weyerhaeuser Timber Co.; Charles L. Wheeler, vice-president, Pope and Talbot, Inc.; and Ernest F. Swift, executive secretary, National Wildlife Federation.

HEARINGS ON THE O & C MARKETING AREAS held in Portland on March 1 lasted almost a full 30 minutes. All that could have been said — both pro and con, had been expressed in earlier hearings on other matters. It is predicted that the Bureau of Land Management will recommend the abolishment of the marketing restrictions that have been set up to disperse the forest products manufacturing facilities throughout the western Oregon revested Oregon and California Railroad Grant lands, and to protect dependent communities from outside competition. A study made last summer by Dr. Paul F. Graves of the New York State College of Forestry indicates that the marketing restrictions have served their purpose and are no longer needed to stimulate or to maintain the western Oregon timber economy.

Editorial

Cabin John's Treasure

We have our own RFD mailbox and five boys out where we live on the periphery of Washington. The name of our community is Cabin John and yes, it is a quaint name, as visitors often tell us. However, there was nothing quaint about John of the Cabin after whom our community was named. Legend has it that he was a swarthy pirate back in the days of Captain Kidd and that his vast treasure still lies buried somewhere in our area. We've never found it, my boys and I, although we have certainly tried. But perhaps we have discovered something almost as good—our own private valley with a brook, virgin tulip poplars and a variety of wildlife.

Our valley is semi-primitive for these parts. The tulip poplars, which must have been here long before the Revolution, are of immense girth. One of them has a hollow center which makes an ideal sentry post or storing place for boyhood treasures. In addition, we have oaks, hickories, beeches, black willows, hackberries and black cherries. Except for a narrow trail, the underbrush is mostly tall and uninviting to girls and the like. The brook flows happily on its way to the Potomac over rocks worn smooth and the banks are lined by immense boulders and willows that lean out over the stream. Sometimes we see snakes sunning themselves lazily on these rocks, but they disappear in a hurry when our dog, Pep, takes after them. We've seen ducks alight on the water. In fact, we've seen more different kinds of birds in our valley at different times of the year than anywhere we have ever lived.

Of course, our valley isn't ours exclusively. We just pretend it is. Actually, it is a part of the parks system but up to now it is largely unexplored by Washington's teeming population. This makes it ideal for us. Both boys and grownups have to dream a little or they go sour. Consequently, we are able to transform our valley into almost anything we wish—Robin Hood's Sherwood Forest, the Scottish Moors, or the hunting grounds of the wild and fearless Sioux. It's really very simple when you know how. All you do is make a magic circle in the air with a dogwood twig, step through, and there you are!

We were thinking how fortunate we are to have our own valley the other day as we were listening to the people at the wildlife conference. In some ways, it seems to us, our wildlife specialists get closer to the secret—this thing that conservation really is—than some of our other groups that are all part and parcel of the same package. There's nothing really very difficult about what conservation really is. Conservation is the light in a boy's eyes the first time he drops a line in his favorite brook. As that light waxes stronger, or diminishes, so does conservation grow stronger, or weaker. And that's all there is to it.

For many wise people have learned that the presence of wild creatures, or their absence, in our outdoor areas has a very real bearing on the health, or lack of health, of those areas. When any one conservation use becomes too dominant it seems that the other uses diminish and soon nobody seems to be victorious and the area shrinks and becomes nondescript—or a super market. Experts use a two-bit word to describe what this is all about. They call it "ecology," and it's tossed around pretty liberally these days. What it means is that a forestry Truth, say, is not necessarily a Truth in terms of every other use. There has to be a universal Truth that provides for all the uses. Who is the Lord High Arbiter of what this universal Truth on Nature's natural law is? There isn't any. Which means that all of us must not be too cocksure, too certain—that we must approach these things with a certain amount of humility. To do otherwise—to have one use emerge triumphant over all the others—would probably be a Pyrrhic victory at best. The triumph would probably be brief and followed by collapse since victory means triumph over other life in Nature's fabulously intricate and interwoven chain of life. Where, then, would that leave the victor?

The job of keeping that light burning in the eyes of boydom is not an easy task. It takes battalions of people working continuously. In wildlife alone, as Dr. Leonard explained at the conference, the work takes the form of three-pronged program of research, management, and education. Behind these battalions are divisions. In forestry, we find another three-pronged attack very similar to the first. And behind these are armies in such fields as water, soil management, recreation and others.

The key people in all this activity, the experts tell us, are our boys and girls. And as we explore our various valleys together, we should learn that they can teach us much even as we teach them. The wildlife takes their interest first. The other things come in natural sequence. And as they grow, they learn that it is not necessarily the loot alone that we take out of the ground that is the important thing, but those things that we share together in the world of the outdoors as we live in harmony both with ourselves and with the land. That, in the final analysis, should be the real treasure that we all seek. Will people find it? We don't know but some subtle changes are going on in conservation today—a groping for new values and reasons—that seems to transcend to some extent the "meat and drink" phases of working programs. Whether it's a Connecticut Bishop or the director of a wildlife federation speaking, the theme of this groping to the sunlight seems to be "there is more to life than loot."



Secretary Seaton — who helped save the Wichita Wildlife Refuge — above



Wildlife Management



By JAMES B. CRAIG

A conservation news story of considerable national significance appeared to be unfolding last month at the North American Wildlife Conference in Washington that augers well for the future of wildlife on the continent and related programs in forestry, soil and water management.

Meeting in a climate that can be described as "more hopeful" than that of a year ago, it is apparent that the stage has now been set for accelerated progress in wildlife's three-pronged parallel programs of research, management and education. A display of top level leadership of a high order, the "new look" in the Fish and Wildlife Service now being reorganized, and the fact that previously divergent groups now appear to be seeing eye-to-eye on the long look at the future, all give substance to the belief that wildlife management is now prepared to move forward once again.

"It appears that this important part of the conservation program is again in forward gear," Dr. Ira N. Gabrielson, a good barometer of the temper of the technicians, told an audience of more than 1,000 professionals and sportsmen. Most of the delegates concur. This should be

good news to 21 million fishermen and 12 million hunters and to Americans everywhere. It should be especially good news to forest, soil and water management specialists which look to wildlife education and its great appeal to young people as one of the tools whereby more people can be sold on the importance of good land management practices.

Many wildlife technicians were disturbed at New Orleans a year ago by the confusion and wrangling in their programs. They were fearful that these uncertainties were dulling the cutting edge of their work and some of them were shooting from the hip at what they regarded as administrative ineptness.

This uncertainty and resentment now appears to be diminishing. Accordingly, *American Forests* asked a number of delegates to what they attributed the change. There were a number of answers. Some said the restoration of career professionals to key agencies of the Fish and Wildlife Service was the answer. Others said the reorganization of the Fish and Wildlife Service was enhancing that agency in prestige. Others said the national service was exhibiting

more interest in their work at state and local levels.

These answers were all interesting, but they seemed to be by-products. Actually, they are traceable to two key individuals who have apparently thoroughly sold themselves to the wildlife movement. The first is Secretary of Interior Seaton. Delegates used such words as "sympathetic" in describing him—by which they mean sympathetic to conservation and all it stands for. In his annual keynote message, Dr. Gabrielson, who has been somewhat reserved in

Both fishing and hunting stand to gain under new 10-year program for wildlife





ment on the March



his praise of Interior appointees in recent years, said, "His (Seaton's) interest and understanding have greatly heartened the conservationists."

The second key cog in the wheel appears to be Assistant Secretary Ross L. Leffler. In describing him, delegates said, "Well, he's a conservationist." Again, Dr. Gabrielson appeared to sum up the prevailing attitude correctly when he said, "While we may not always agree with his (Leffler's) decisions, we know that they will be made from

a conservation point of view."

Secretary Seaton, who was laid up with a bad back, was unable to attend the conference. Mr. Leffler was present and his influence was pronounced. There are times when a little contagious enthusiasm accomplishes a lot and this appeared to be one of them. Perhaps it was not so much what Mr. Leffler said as the way he said it that proved attractive, but in any event his two appearances at the conference were received with enthusiasm. He told the people in Fish and Wildlife how good they



Assistant Secretary Leffler — who helped Secretary Seaton do the job

are and one surmises they will need to be to carry out the job he is laying out for them under a 10-year program that will cover more research, more management service, better farmer and landowner cooperation, improved federal-state cooperation, and improved land and water philosophy as it affects fish and game management, and improved public education programs. The impact? Well, there were people there from Fish and Wildlife who were actually bragging about their agency. These people were telling the world that it was *their* Secretary and *their* Assistant Secretary who had finally resolved the Wichita Refuge clash with the Army—in favor of the refuge. In addition to that, it seemed to us Mr. Leffler gave the Administration's partnership program a realism that has sometimes been lacking in similar presentations. "We're going to come knocking on your door for advice and problems of mutual interest," he told the technicians from every state in the union—to which one delegate added, "I believe him." Finally, even the most critical individuals concede that Mr. Leffler means exactly what he says when he said, "I will al-

Participants in the Wildlife Congress Panel are (l to r) Dr. Gabrielson, Mr. Partain, Dr. Waterman, Dr. Bronk, Mr. Zahniser, and Dr. Goddard



ways be untiringly seeking the tools and funds they (the Fish and Wildlife Service) need to do their jobs adequately." He plans to upgrade salaries.

All this in less than a year.

What of conservation as a whole? How does the picture look to wildlife specialists there? "This has been a rather momentous year in conservation history," Dr. Gabrielson said. There have been successes and failures, but the gains seem to be of more significance than the losses."

Gains enumerated by the Wildlife Management Institute president were: 1) the good forestry and wildlife provisions in the Soil Bank Act—"which are there because conservationists across the nation put them there;" 2) the new and stronger Pollution Act; 3) the significant conservation victory of the Florida Game and Fresh Water Fish Commission in connection with Jim Woodruff Reservoir; 4) the strong stand taken by Interior in resolving the Wichita Refuge dispute with the Army; 5) more appropriations for the Forest Service, the Fish and Wildlife Service, the National Park Service, and the Soil Conservation Service; 6) restoration of career professionals to key jobs in the Fish and Wildlife Service which provides hope that they will be removed from the Schedule "C" (political) appointment bracket once and for all.

The failures? 1) Failure to enact the Key Deer Bill to create a refuge for these diminutive animals in Florida; 2) While proposed watered-down amendments to the Coordina-



Mrs. John G. Lee, president, League of Women Voters, presented lay viewpoint

tion Act got nowhere, "a much more vigorous proposal is being circulated," and we hope it will be introduced and backed by all conservation groups; 3) While "conservationists owe President Eisenhower a vote of thanks for his veto of the Omnibus Bill" that contained the authorization for Bruce Eddy Dam and a drainage right-of-way through the White River Refuge, both items are again included in the bill and will "require vigorous opposition on the part of conservationists to prevent their enactment."

So much for what wildlife technicians regard as a more heartening picture in the field of administration and legislation. What of research and education? A year ago when we

gave the New Orleans conference somewhat longer coverage than usual, several foresters wrote in to suggest that we give these two phases of the work more attention another year.

On research, judging by what professionals reported, it is going to take more than assurances even from Mr. Leffler. It is going to take deeds. Consider the complexities of migratory fowl, for instance. A research project to increase the growth rate of slash pine, say, on a given location is something even the lay mind can comprehend as to its necessity and ultimate importance. On the other hand take the statement of Dr. George A. Selke, of Minnesota, that "the fundamental concept about migratory fowl that I think all of us should have is that the duck and the goose and the like are never the concern of only the people where these birds *happen presently to be*. These transients are only temporarily local. They are state or province problems, interstate and interprovince, national and international. The migratory fowl belong to no single area and to no certain group. They belong to all and are the concern of all. In dealing with them we must think of all within whose view the migrations take place."

In view of such a statement, is it any wonder that we find Dr. Leonard, of Michigan, stating in a summary address that "space" itself is the province of the wildlife research man?

Or consider this problem of wet-
(Turn to page 54)

Panel on education was star attraction at meeting of National Wildlife Federation. One of the featured speakers was "Mollie" Taylor, Trees for Tomorrow, second from right



What Happened in Arizona?

IN REFERRING to impending studies as to the correct disposition of forest lands owned by the Klamath Indians in Oregon, Attorney Forrest E. Cooper, of Lakeview, suggests that the final disposition of the Aztec Lands in Arizona may have a bearing on the Oregon case.

As readers will recall, a court decision awarded these lands to the Aztec Land and Cattle Company. Previously, they had always been regarded as an integral part of the Sitgreaves and Coconino National Forests. When the Aztec Company announced that it wished to sell the lands, a controversy arose as to whether the government should purchase the lands and block up the two national forests or whether they should be sold to private owners.

The American Forestry Association favored purchase by the government. Its decision was influenced in part by the fact that a reputable Arizona lumberman, J. B. Edens, president of the Southwest Lumber Mills, Inc., originally urged government purchase as the best solution from the standpoint of good land management and all parties concerned.

Congress, however, refused to buy. And it should be pointed out that when it became apparent that the lands would go to private owners, conservationists were generally relieved when the firm headed by Mr. Edens bought up the bulk of the property and announced it would be managed on a sustained yield basis.

Up to now, AMERICAN FORESTS has not reopened the Aztec case, delaying in the thought that an interval would be required to see the follow-up program in proper perspective. However, Mr. Cooper's letter now reopens the matter; and it seems to AMERICAN FORESTS that he is entitled to any answers we can provide. Accordingly, we herewith publish Mr. Cooper's letter to the editor, a reply from Mr. Edens, of the Southwest company, and an additional editor's note:

EDITOR:

A few years ago your magazine was clamoring for federal purchase of the 80,000 acres in Arizona that the federal government by and through the Forest Service lost to the Aztec Land and Cattle Company in a federal court case. You were quite certain at that time that unless Uncle Sam stepped up and bought back this

property that the forest crop thereon would be slaughtered. It is quite generally known that the Congress did not buy. Will you please inform us readers whether or not the forest crop was slaughtered as so many predicted? The writer lives next door to the Klamath Indian Reservation. We hear so much now days about the need for federal purchase or eternal damnation of the reservation forest that I cannot help but wonder what happened to "Old Man Aztec" and his trees in northern Arizona. Please give us an up-to-date report.

Forrest E. Cooper
Attorney-At-Law
Lakeview, Oregon

EDITOR:

On May 21, 1956, Southwest Lumber Mills purchased from the Aztec Land and Cattle Company approximately 87,000 acres of land in the Sitgreaves and Coconino National Forests in Arizona checker-boarded with Forest Service holdings. About 18,000 of these acres are nonforested. This is a brief report on the management of the Aztec lands during the months of ownership by Southwest.

Southwest sold cutting rights on 27,000 acres to other concerns in the area. These rights were sold (1) in recognition of the investments by other established operators dependent upon Aztec timber when it was in the public domain, (2) in the interest of stabilizing employment and the economy of communities in northern Arizona dependent upon timber, and (3) as a means of aiding and financing the purchase by

Southwest. Incidentally, there is—or was—virtually no privately-owned timber in the state of Arizona.

On the 27,000 acres, the principle of marking selectively is followed, excepting that most of the mature and over-mature trees 20" and over will be cut and the residual stand will be made up primarily of growing stock. To quote from the marking section of the cutting contracts, "... after logging operations there shall be left on the cutting area as a whole a gross average volume of approximately 17% (of the merchantable volume) of thrifty, undamaged, disease-free trees, well distributed over the land."

On those lands on which Southwest operates, a selective cutting system is also used. This system aims at removing, on the first cutting cycle, most of the over-mature stems, and the less vigorous and larger of the mature trees, leaving for future cuts the healthy, vigorous stand of the better mature trees and the immature class. In the virgin areas, this policy results in removing approximately 60% of the saw log volume. In the areas cut over by the Forest Service, prior to the company's acquisition of these lands, this policy necessarily will result in a lighter cut because a larger number of the over-mature trees already have been removed.

Looking ahead to the distant future, and as the pulpwood picture in this area develops, we may modify this policy to shorten the rotation period to favor pulpwood production rather than remaining on

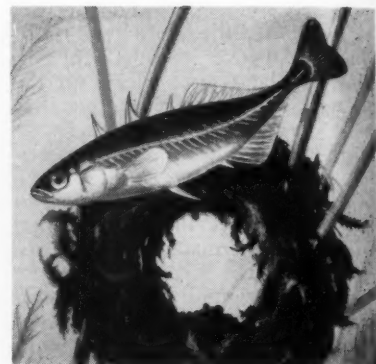
(Turn to page 62)



Awards Committee: (l to r) Paul M. Dunn, Lloyd E. Partain, Louis H. Wilson, chairman; and Ernest Swift. Not present, R. E. Bass, A. R. Spillers

AFA's Distinguished Service Awards

First call for applications for the 1957 Distinguished Service Awards of The American Forestry Association was issued last month by the Awards Committee. These five awards are made annually to individuals whose service has gone beyond the call of duty in the renewable resource fields of forests, soil, water and wildlife. The awards are made in: 1) Public Information; 2) Business and Industry; 3) Public Servants; 4) Education; and 5) General Service. In each instance, the committee determines the category in which candidates are listed. Deadline for nominations for the 1957 awards is June 15, 1957. Award blanks may be received from and should be returned to The American Forestry Association, 919 Seventeenth Street NW, Washington 6, D. C. Candidates selected and approved by the Board of Directors will be honored at AFA's Annual Meeting Banquet to be held this year at Madison, Wisconsin, on October 1.



Living Q

DID you know that nearly one-third of all big-game animals, as well as thousands of fur animals, game birds, and waterfowl frequent our national forests? And do you know why these animals live on such areas? They are there because tree plantations provide food and shelter, and have an important regulating effect on water—a prerequisite of all wildlife. In other words our national forests are havens that provide the right types of homes for a variety of wild creatures, including such common species as deer and grouse and such rare ones as fishers and grizzly bears.

In addition to national forests, many other federal, state, and privately administered lands are managed so that they provide *homes for wildlife*, that is, they cater to the habitat needs of our birds, fishes, mammals, and other wild creatures. And as wildlife is utterly dependent upon environment, areas managed to suit wildlife yield a high return of this renewable resource.

"Homes For Wildlife" is the con-

servation theme for 1957 of the National Wildlife Federation and affiliated organizations, and "Make A Place For Wildlife!" was the slogan for National Wildlife Week (March 17-23), which was first proclaimed by President Franklin D. Roosevelt in 1938. In his proclamation the President called upon all citizens to study wildlife problems, and "to work with one accord" for conservation and restoration. And every year since 1938 the federation and closely allied groups have sponsored National Wildlife Week—an educational and publicity campaign to get more people thinking about their vital stake in the wise use of natural resources.

Each year's campaign is built around a particular conservation problem. As you may recall, last year's campaign was concerned with pointing up the plight of such endangered species as the tiny key deer of Florida, the foot-long grayling of Montana, and the California condor—our largest soaring land bird. In 1955 the value of marshes as produc-

tive wildlife areas was emphasized in an effort to halt unwise drainage. And this year the campaign, through its slogan, "Homes For Wildlife," is stressing the habitat needs of our varied wildlife species.

Soil erosion, over-grazing, unwise drainage, forest fires, water pollution, and other abuses have destroyed so much natural habitat that animal populations are not what they could or should be. But with proper land management, wildlife populations can be increased through restoration or development of habitats—two practices which are in effect on all national forests.

Our forest rangers think of wildlife as a renewable resource like grass and trees—a resource that can be grown and used like any other crop. Accordingly they manage the wildlife habitat as they do the other resources, both as an entity in itself and in relation to water (a forest's most valuable resource), timber, range, and recreation.

The forest rangers work closely
(Turn to page 42)



Coordinated resource planning, the method
used on national forests, results in improved
habitat, the key to more abundant wildlife

By WILL BARKER

gQuarters for Wildlife

Photo by R. W. Poulter





WHAT LIFE IS WORTH

My birds awaken me at break of dawn
By hungry chatter in the viny eave
And I arise and put a man's clothes on
Instead of robe and soft pajama sleeve.
I have returned to life I knew but lost
And, happily, I shall be with again,
Sights, sounds and dreams I knew and loved the most
On small creek meadow and high hill terrain.
My world is small with oaks and pines and rocks
And wind in sedge and briar upon earth's floor,
The cawing crow, a distant barking fox
And singing, blue, clean, streams that pour
Down narrow channels in the bright moonlight
That pin the stars and moon down to the earth,
I see before retiring for the night!
I'm proud that now I know what life is worth.

By Jesse Stuart

Reading About Conservation

Familiar Animals of America

WHAT common American animal has flaunted Darwin's Theory? Was that a hare or a rabbit that just hopped across your lawn? Do groundhogs really come out to look for their shadows?

The answers to these questions, and any others you might have had about the wild animals in city parks, neighboring woods and countrysides, or in the wilder areas of mountains and prairies may now be found in one volume, Will Barker's *Familiar Animals of America* (Harper & Brothers, New York, 1956, \$4.95, 300 pages).

Combining scientific accuracy with his easy, flowing style, Will Barker has produced a delightful guide to the wild animals around us, superbly illustrated by Carl Burger. There is an excellent drawing of each animal in its natural setting, along with many supporting illustrations of tracks, dens, or other important features of the individual subject's activity.

Some sixty of the most common species and subspecies of animals—rodents, native cats, bears, hoofed mammals, reptiles, frogs, toads, and others—commonly found in North America are discussed in this book. The habitat, range, eating and living habits, and other characteristics peculiar to each of these animals are described in detail. There are also pointers on identifying particular



Above, fisher or pekan, below, marten



Familiar Animals of America is superbly illustrated by Carl Burger

tracks and burrows, and the function of the animal in the economy of nature is explained.

Many interesting and unusual facts are revealed about these animals. For instance, the opossum has apparently ignored the theory of evolution by changing little since it roamed the continent with dinosaurs seventy to one hundred million years ago; there really is a difference (for the layman's information) between hares and rabbits—hares have longer ears and longer hind legs; and, the groundhog or woodchuck is more interested in finding

a mate than in looking for its shadow upon emerging from hibernation.

The author also points out that with a single shot you can kill a catamount, a cougar, a silver lion, a mountain screamer, a panther, a purple panther, a brown tiger and an American lion. These are various names for the same animal—the mountain lion or puma.

Myths about bats are dispelled by the author. Bats are actually clean mammals, and do not deliberately light in a woman's hair, al-

(Turn to page 46)



Photo by Gordon S. Smith

After touring America, English naturalist James Fisher declared that he had never seen such wonders or met landlords so worthy of their land — they have made it into a garden instead of ravaging it.

Which Men? What Needs?



Desert Scene, Tonto National Forest

NEVER have I seen such wonders or met landlords so worthy of their land. They had, and still have, the power to ravage it; and instead have made it a garden."

Thus wrote the English naturalist James Fisher after his tour of America with Roger Tory Peterson. (*Wild America*. By Roger Tory Peterson and James Fisher. Houghton-Mifflin 1955.) The tribute is not wholly undeserved but the threat of that "power to ravage" is not theoretical or remote. Nobody opposes conservation as such; but every special interest has its own definition and there are rival claims to every unexploited area.

Those who would cut the timber, slaughter the animals as game, turn cattle loose to graze, flood the area with dams, or even open them to real estate subdivision are fond of saying: "After all, human needs come first." But what needs of which human beings?

We do not tear down a school because the building industry can prove easily enough that it could profitably erect an apartment house on the site and that tenants would be glad to occupy it. We say instead that education pays off in a different way and that the space occupied by schools is not wasted. We say much the same thing of the space taken up by the green of a city square. In the end the fate of even the national parks and wilderness areas will depend upon our willingness to think of them in this way. If they are to be held only until someone can show that a "use" has been found for them, they will not last much longer.

No other recent threat is quite so fantastic as that raised in Arizona where a small group of farmers cul-

tivating the irrigated desert has just persuaded a small group of ranchers to adopt with them the highly unorthodox notion that the forests clothing the watershed are "wasting" the water which might be used for cotton or other crops.

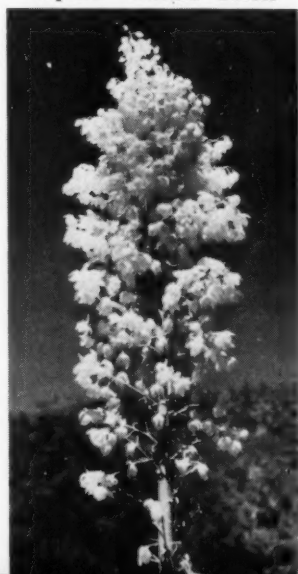
Both ancient and modern history provide many examples of countryside, even of whole nations, destroyed by the destruction of their forests. So far as I am aware there is no known case where the stripping of mountains had any beneficial effect. Yet a picked group of experts was employed to report on the proposal. The experts issued a rather careful report, sponsored jointly by the Salt River Valley Water Users Association and the University of Arizona, which boils down to the statement that the deforestation of certain mountains in Arizona *might* provide more water

behind the dams. Then interested groups distributed a so-called summary of the report in which the "mights" and other qualifications are largely removed and proceeded to enlist the support of the governor of the state as well as of at least one of the largest banks.

Here are some of the highlights from one of the principal speeches in support of the fantastic proposal. "Outside of agriculture, there's more confusion, more ignorance and more self-interest concerning the conservation movement than there is about almost any other important movement in the country. . . . We should forget about soil erosion as the banner of conservation. . . . I have just written off the forests of the Southwest and a large part of those located elsewhere in the United States. . . . No longer will millions of trees keep a large percentage of rain and snow-fall from reaching the ground. . . . We need chemical sprays that will destroy trees and brush at low cost. . . . As this (public) land's productivity is increased, I believe it should pass into the hands of private owners. . . . Private ownership of land is the basis of our democratic society. . . . Conservation is an economic problem. If we could amputate sentimentalism, romanticism and hobbyism from the body of conservation, progress would be faster and more certain than it is."

The official summary of the original report gives a more detailed picture of what both the plan proposes and of the kind of earth it envisages. "The program . . . includes drastic thinning of ponderosa pine stands. . . . The pulp industry will not develop fast enough to provide wholesale cleanup of all forested areas. . . . As an adjunct to a treat-

Yucca north of Havilah,
Sequoia National Forest





For years men have been trying to recapture the sublimity of the Grand Canyon of the Colorado by pen or brush, but none have adequately conveyed its glory of color nor described its depths, heights, or rock formations

ment program, a speed-up in the harvesting of timber on the watershed is indicated. . . . It is not beyond reasonable expectation that the cities of central Arizona will someday have to cover with plastic or other impervious material an area that will furnish those cities the highest quality of soft water."

The forests this group proposes to destroy are not private property nor even state property. They belong to the national government and therefore to all the people. Yet only, so it is assumed, does this particular group have any right to them because only it proposes to make a monetary profit. And one of the most influential newspapers of Arizona supports this claim in an editorial based on the premise "human needs come first." Who needs surplus cotton as much as thousands today (and millions of tomorrow) need space, fresh air, and a chance to see what a forest looks like?

Perhaps this monstrous proposal to adopt deforestation as a technique of "conservation" will be defeated by its inherent preposterousness rather than by a proper answer

to the question "Which men; what needs?" But sooner or later some general answers will have to be given not only in connection with the proposed exploitation of natural resources but also a proposal of national parks, monuments and wilderness areas as well—supposing, that is, that they continue to exist. What needs of which people should they, even as recreational areas, serve? How natural should a natural area be kept? How much should it be "developed" when every "development" and "improvement" makes it that much less natural? It is only hit and miss that these questions are now being answered, but they are fateful nevertheless.

Consider for example the question of "accessibility." How easy should it be to reach one of the natural areas? If it cannot be reached at all, it is obviously not being "used." On the other hand one reached too easily becomes a mere "resort" to which people flock for purposes just as well served by golf courses, swimming pools and summer hotels. Parks are often described as "recreation areas" and so they are. But the

term "recreation" as ordinarily used does not imply much stress upon the kinds of experience which Grand Canyon, despite the flood of visitors which come to it, still does provide—namely the experience of being in the presences of nature's ways and nature's work rather than of man's.

Defenders of the recently defeated proposal to flood the Dinosaur Canyon by building a great water-storage dam answered defenders of the national monument within which it lies by saying that the "recreational value" would be increased rather than diminished. They were so sure of their case that they showed pictures of the gaunt canyon as it now is with the bones of prehistoric monsters exposed *in situ* and contrasted them with other pictures of artificial lakes behind other dams where bathing girls reclined on sand beaches and speed boats cut noisily across the waters. From their own point of view they were right. But however delightful bathing girls and speed boats may be, they are at least different from, rather than merely better than, what Grand or Dinosaur Canyon provides. Moreover the



places where one may find bathing girls and speed boats are multiplying while those where one may find solitude, quiet, and the grand spectacles of nature become fewer and fewer.

A majority, increasing perhaps, is ready to settle for "recreation" in the most recent sense of the term and most may by now actually prefer it. Ours is so much an age of technology and the machine that machines come to be loved for their own sake rather than used for other ends. Instead, for instance, of valuing the automobile because it may take one to a national park, the park comes to be valued because it is a place the automobile may be used to reach. A considerable number of automobilists would like when they get there to do what they do at home or at the country club; an even greater number prefers to drive straight through so that they can use their machine to get somewhere else. Their feeling is that to stop is simply to waste time because time spent without the employment of some gadget is time wasted—though it may to some extent be salvaged by turning on the radio. But is it

for them that the parks should be maintained?

We, say the proponents of further developing "the recreational facilities" of the national parks, live in a democracy and the majority should rule. It is purely a question of the greatest good for the greatest number. They do not ask what if, as so often happens, "the greatest good" and "for the greatest number" do not coincide? Suppose that the greatest number does want the kind of recreation to be had in many places and that only a smaller number wants something increasingly hard to find. Would the greater good of the smaller number justify the reservation of certain areas for them?

Granted that the greatness of a good is, unlike the greatness of a number, susceptible of only subjective estimation, we still do, to some slight extent, recognize the justice of reserving a limited number of air-wave channels for the "educational" and "cultural" programs which the greatest number most certainly do not prefer to comedians and jazz. Of certain other "minority rights" we hear a great deal. But are such rights exclusively political, religious and racial? Are not the intellectual, aesthetic, and emotional rights of a minority just as sacred? Does democracy demand that they be disregarded?

The best possible compromise in the case of parks and other national areas is to recognize that they are competed for by both the exploiters to whom an absolute "No" must be said and by the seekers after "recreation" who have certain legitimate, but not exclusive, claims. To both must be allotted a reasonable share. That means, not a share in each individual area because to attempt to provide that would inevitably be to destroy completely the share of the minority. It can only mean a distinction between those of the nationally administered areas which are primarily for "recreation" and those which preserve in an at least recognizable state, nature herself.


The wilderness area, the protected nature reserve, and the recreation resort are different things: the first is for the smallest minority—that which is physically and psychologically up to the strenuousness of really primitive living. The second is for the larger minority which is interested in wild animals, in plant life and in natural scenery though unprepared for life in a real wilderness. The third, of course, is for the majority whose tastes are not essentially different from those who fre-

quent commercial resorts.

The increasing size and increasing mobility of our population makes it inevitable that the more sedate "nature lovers" should favor whatever will facilitate their pushing into the wilderness area and the seeker after recreation whatever would make the nature reserve more attractive to him. But if the desires of either are too eagerly met the ultimate result will be that only "resorts" will continue long to exist. If on the other hand the desirability of the distinctions is recognized, it is not difficult to maintain them. It is indeed largely a matter of easy accessibility and "modern facilities."

We have come to assume that "good roads" are anywhere and everywhere an absolute good, an unmixed blessing. Few if any other expenditures of public money are so generally approved as those for road building. Congress (and the public which elects it) can always be expected to hesitate longer over an appropriation to acquire or protect a national park than over one to build a highway into it. Yet there is nothing which so rapidly turns a wilderness into a reserve and a reserve into a resort. An astonishing number of those for whom a national park (or any other region commonly regarded as "worth seeing") is primarily an excuse for exercising their automobile, will turn aside from even ten miles of good unpaved road and take instead a four lane highway, no matter where it leads. To me it doesn't seem unreasonable to protect both wilderness areas and nature reserves by keeping them for those who are willing to take a certain amount of trouble to reach them.

Those who favor better roads and various other enticements are no doubt honest in their professed desire to promote what they call "fuller use" of the wildernesses and the parks. But what they are encouraging is not a fuller use but a different one—incompatible with the other. It would hardly be practicable to examine every visitor to wilderness or reserve and to make him prove that he has come for a legitimate purpose. But it is perfectly possible to make the test automatically by having the road ask the question: "Are you willing to take a little trouble to get there?" If the proposal to deliberately prepare for such automatic questioning may seem fantastic to many, that is only because ours is an age—the very first perhaps—which has come to assume
(Turn to page 44)



FOREST TREE PLANTING IN THE UNITED STATES

FOREST AND WINDBARRIER
PLANTINGS IN THE
UNITED STATES

Year	Acres
1956	915,428
1955	812,588
1954	811,066
1953	715,548
1952	522,935
1951	456,368
1950	497,507
1940	519,051
1930	138,970

FOREST tree planting in the United States hit a new high in 1956, with trees set out on 915,428 acres. This figure tops by nearly 103,000 acres, the previous record set in 1955. State forestry and other cooperating agencies were mainly responsible for this outstanding reforestation accomplishment.

With states expanding their tree nurseries and arranging with privately-owned nurseries to increase output, it is predicted that more than one million acres will be planted in 1957.

In 1956, the federal government planted 83,641 acres of forest and administered by its various agencies 2,319 acres of windbarriers on lands—a seven percent increase over 1955. The states and other non-federal public agencies planted 11,000 more acres than the previous year for a total of 62,463 acres. Private landowners planted 741,744 acres of forest and 25,261 acres of windbarriers, increasing their total planting by 13 percent over 1955.

However, the increase did not occur in all states. While tree planting was expanded in 25 states, it remained approximately the same in 12 states, and actually decreased in 13 states by 35,000 acres.

Eighty-four percent of the forest

planting was done on privately owned lands. Georgia led with 117,888 acres planted, followed by Mississippi with 81,844 acres and Florida with 77,847 acres.

Reforestation by industrial organizations of their own lands amounted to 41 percent of this private land planting. In 1956, forest industries planted 256,938 acres, 17,910 acres more than in 1955. In this category Georgia again headed the list with 55,971 acres, Florida was second with 38,068 acres, and Louisiana third with 36,308 acres. In many states the planting of industry-owned land would increase greatly if planting stock were more abundant. The number of forest-industry-owned nurseries has been increased each year in an effort to obtain more stock. Several additional ones are scheduled to go into production in 1957.

Although total tree planting reached a record high in 1956, windbarrier planting was 3,974 acres less than was recorded in 1955. Windbarrier planting in 34 states amounted to 27,775 acres. Only South Dakota and Puerto Rico reported increases in this type of planting. This overall decrease was due to drought in the Midwest, and to stock shortages in a few states.

It has been estimated that about three million acres of new wind-barrier plantings are needed, in addition to replantings in old, failing barriers. However, it is expected that a sizable increase will occur in the next few years because of recent federal and state activities.

Forest tree nurseries produced 885,968,000 in 1956, as compared with 742,273,000 in 1955. The only federal nurseries operated in 1956 were 12 by the Forest Service and one by the Tennessee Valley Authority, which together produced 141,850,000 trees. State nurseries accounted for 580,884,000 for the same period, as compared with 519,462,000 in 1955. Ten states produced 72 percent of the stock in the latter category, with Georgia still leading the group with 112,833,000 trees, followed by Florida with 54,720,000 trees and Louisiana with 42,654,000 trees.

State nursery production went mostly to privately-owned lands, (Turn to page 48)

FOREST TREE NURSERIES ACTIVITIES FOR 1956			
Agency or owner	Active nurseries	Output of trees	
Federal			
Forest Service	12	119,517,000	
Tennessee Valley Authority	1	22,333,000	
	13		141,850,000
State			
State foresters or equivalent	90	580,884,000	
			580,884,000
Other public			
Soil Conservation Districts	6	8,343,000	
County and municipal	5	661,000	
	11		9,004,000
Industry			
Paper companies	13	63,570,000	
Lumber and land companies	7	13,737,000	
	20		77,307,000
Commercial			
Private companies	53	76,923,000	
	53		76,923,000
Total 1956	187		885,968,000
(Total 1955)	(167)		(742,273,000)

FOREST AND WINDBARRIER STOCK DISTRIBUTED BY THE STATES

State	Distribution by State Organization Within State			Production by State Nurseries		State
	Clarke-McHary Program Alone		All Programs Combined	Number of Nurseries Shipping Trees in 1956	1956 Shipments to Field Planting	
	Quantities Shipped	Average Price Charged				
	(M)	(\$)	(M)	(M)		
Alabama	35,998	3.00	36,165	3	33,929	Alabama
Arizona	No Program	-	-	-	-	Arizona
Arkansas	15,354	3.01	15,354	1	15,224	Arkansas
California	891	13.03	1,410	4	1,413	California
Colorado	329*	24.98	331*	-	-	Colorado
Connecticut	497	20.00	561	1	211	Connecticut
Delaware	415	Free	415	1	621	Delaware
Florida	54,077	4.02	54,720	2	54,720	Florida
Georgia	112,833	3.03	112,833	4	112,833	Georgia
Idaho	375	15.54	404	1	369	Idaho
Illinois	6,622	12.08	6,657	2	7,355	Illinois
Indiana	6,109	13.09	12,098	3	12,702	Indiana
Iowa	1,060	19.37	1,060	1	560	Iowa
Kansas	No Program	-	150	1	150	Kansas
Kentucky	6,272	7.09	6,323	2	1,302	Kentucky
Louisiana	42,453	2.93	42,508	2	42,654	Louisiana
Maine	1,130	10.60	1,130	1	75	Maine
Maryland	3,526	Free	3,526	1	3,526	Maryland
Massachusetts	580	23.76	580	3	580	Massachusetts
Michigan	4,604	11.29	25,344	6	18,001	Michigan
Minnesota	13,630	9.96	14,185	3	13,891	Minnesota
Mississippi	30,657	3.50	30,657	2	30,657	Mississippi
Missouri	2,316	6.95	2,761	1	4,327	Missouri
Montana	400	32.36	400	1	365	Montana
Nebraska	1,187	33.52	2,897	-	-	Nebraska
Nevada	(35)**	-	-	-	-	Nevada
New Hampshire	1,072	7.09	1,072	1	1,275	New Hampshire
New Jersey	1,234	8.10	1,262	1	1,262	New Jersey
New Mexico	(21)*	-	-	-	-	New Mexico
New York	29,153	3.02	29,153	2	29,153	New York
North Carolina	32,182	3.56	32,716	3	35,031	North Carolina
North Dakota	615	19.54	615	2	615	North Dakota
Ohio	10,034	10.22	10,935	3	10,796	Ohio
Oklahoma	1,271	6.47	1,315	2	1,395	Oklahoma
Oregon	6,675	8.74	6,675	1	6,679	Oregon
Pennsylvania	12,014	6.13	13,574	4	13,581	Pennsylvania
Rhode Island	146	10.00	146	1	-	Rhode Island
South Carolina	32,611	2.44	33,098	1	33,024	South Carolina
South Dakota	2,210	29.74	2,210	-	-	South Dakota
Tennessee	22,202	3.01	29,870	1	22,891	Tennessee
Texas	17,617	3.57	17,617	2	17,538	Texas
Utah	167**	25.72	176**	1	138	Utah
Vermont	2,131	8.26	2,131	1	2,131	Vermont
Virginia	19,960	4.57	20,483	2	18,094	Virginia
Washington	450	12.12	4,970	2	5,279	Washington
West Virginia	3,126	11.28	3,500	1	3,350	West Virginia
Wisconsin	22,825	12.82	22,825	6	22,129	Wisconsin
Wyoming	239	25.92	239	-	-	Wyoming
Total for Continental U.S.	559,572 M	\$ 4.84 Cont. Av.	607,071 M	83	579,626 M	Total for Continental U.S.
Hawaii	186	Free	186	5	186	Hawaii
Puerto Rico	650	Free	872	2	872	Puerto Rico
Grand Total	560,456 M	\$ 4.81 Nat'l. Av.	608,129 M	90	580,884 M	Grand Total

* Includes 21 M C-M for New Mexico handled by Colorado

** Includes 35 M C-M for Nevada handled by Utah





Like other farm jobs tree planting is no snap, but pays big dividends

◀ Four million trees in four years is record of Planter Otis McRae

Trees are a prime crop to Farmer Jones who also raises cotton, tobacco, corn and peanuts. But the trees are less work



County Agent Cecil Spooner stops by to chat with Farmer Jones and Robert Jones, Jr., who is active in 4-H work



Photos by Dan Todd

Robert Hugh Jones (right) Telford
slash pine plantation. Far he

Farmer J

The Jones family (below) obtain their seedling from the Brunswick Pulp and Paper Company





s (right) Telfair county, Georgia, already has 400 of the 830 acres of his farm in woodlands including this 20-year-old
ion. For he got eligibility under the Soil Bank to plant another 150 acres and he has been planting since December

er Jones Plants Some Trees

eedling
ompare

The Jones planting program drew a big crowd. That's Union Bag and Paper Co. forester Bill Bray on left



The Jones planting program, one of the first under the Soil Bank, is the subject of a Forest Service movie



Dogwoods are considered the most valuable of our small deciduous flowering trees from the decorative standpoint, as they have special attractions for each season

THE name "dogwood" brings to mind beautiful vistas of pure white blossoms along the highways in an early spring woodland setting. They often make up the understory of the woods, their bright blooms shining out against a background of dark tree trunks. Two native and one introduced species have these conspicuous blooms. In addition, there are a number of native and foreign dogwoods that are otherwise attractive and are often used for ornamental purposes.

An outstanding characteristic of the dogwoods is the opposite branching which is shared by comparatively few native trees, including the maples, ashes, buckeyes and catalpas. However, one native species, called alternate-leaved dogwood or pagoda, has alternate branching. The dogwoods are easily transplanted; they are also very adaptable, growing in the open and in the shade of other trees, and in moist and also rather dry soils. The seeds germinate the

second year after planting.

The common flowering dogwood of eastern United States (*Cornus florida*) grows to a usual height of 10 to 40 feet with a short, clear trunk up to six inches in diameter. It often takes on a shrub-like form. What are commonly taken for the four petals of a flower are botanically leaves or bracts which surround a flat-topped cluster of minute flowers. These bracts covered and protected the urn-shaped flower buds during the winter, opening up to reveal their snow white inner surface before most other flowers are ready to open. To add to their attractiveness, the blossoms are borne in flat sprays, layer upon layer, each one being held up by the supporting twig to the proper angle and position. And they take advantage of the naked woods to show their loveliness free from competition.

Flowering boughs are often broken off by picnickers and brought home for decoration, but it is gen-

erally found that the blooms are more beautiful in their natural setting and on trees grown around the home grounds.

From the decorative standpoint, the flowering dogwood is generally considered to be the most valuable of all our small deciduous flowering trees. It also serves well in the shrubby form. For every season of the year there is a special attraction: in the spring its snowy white blossoms; in summer its deep green foliage quite free from insect attack and disease; in the fall, its compact clusters of scarlet berries and beautiful red autumn colors; in winter the horizontal branching and intricate pattern of slender, purplish, angled twigs, terminating in conspicuous urn-shaped flower buds.

As an ornamental, the flowering dogwood is suitable for a diversity of uses, on large places or small, either as a solitary lawn specimen, in groups to serve as a background, or as an occasional tree among other

The Dogwoods

By WARREN D. BRUSH

Blossoms are borne in great profusion, layer upon layer, tier upon tier, above the horizontal branches



trees or shrubs. It is easily transplanted—even wild stock—which should, however, be handled only in the spring, care being taken to retain plenty of earth on the roots. Nursery-grown stock stands a better chance of survival, will grow faster, and also will usually produce a better specimen than wild trees. They should be dug and planted in the spring or early fall. Freshly dug plants up to three feet high may be transplanted with the roots bare. Taller plants should have a good ball of earth and be covered with burlap. If they are given extra care and there is sufficient earth on the roots, freshly dug plants may be successfully transplanted in the summer.

Newly transplanted trees are subject to injury from a borer which attacks it at or near the ground line, often girdling the tree. Any discolored places should be scraped out and painted or filled with an antiseptic preparation.

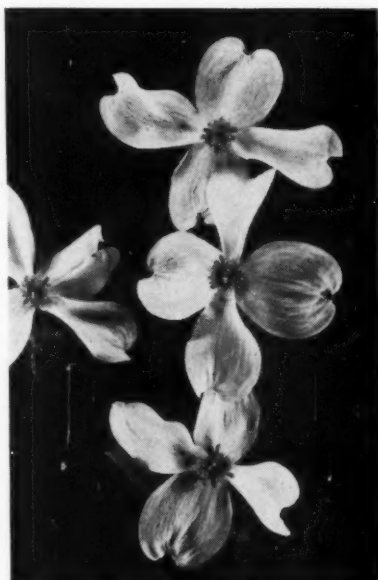
Flowering dogwood grows naturally from Massachusetts and southern Michigan to Missouri and south to Florida and Texas. The time of flowering ranges from mid-February in the South to mid-May in the North. At higher altitudes in the North the buds may not survive the winter. This is especially true of one- and two-year seedlings which need protection. Older trees are more hardy which is one reason for buying older stock.

Flowering dogwood trees are often used in war memorial projects, as at Valley Forge, Pennsylvania, and to beautify wide highways.

The bark of the tree is distinctive. On old trunks it is dark brown to black and is broken by deep fissures into squarish blocks, resembling in appearance an alligator hide.

There are several varieties of the flowering dogwood, which are budded or grafted stock. The most popular of these is the red flowering dog-

wood (variety *rubra*) with pink or rose-colored bracts, which is outstandingly beautiful and often flowers at an earlier age than the white. It shows off well in groups of the white and is particularly striking by contrast when in bloom in front of the white-flowered trees. In some of the red-flowered specimens the tip to tip diameter of the flower bracts measures as much as six inches. There is also a yellow-berry flowering dogwood (variety *xanthocarpa*)



Eastern dogwood "flowers" measure as much as 5" from tip to tip of bracts



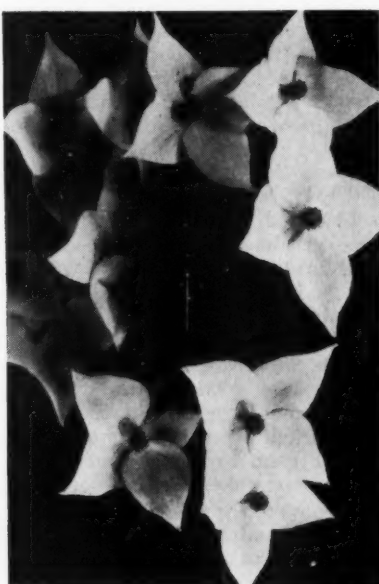
Pacific dogwood "flowers" have bracts somewhat larger than eastern species

Scarlet "berries" in compact clusters enhance attractiveness of many dogwoods



APRIL, 1957

Starry blossoms of Japanese dogwood are easily seen against dark green leaves



which bears yellow fruit. Some specimens produce red-and-yellow checked berries. They are planted among the red-fruited trees for contrasting effects. There are also double-flowered varieties (*plena* and *pluribracteata*) with six or more floral bracts and their unique beauty recommends them for occasional use.

The Pacific dogwood (*Cornus Nuttallii*) grows naturally from British Columbia to southern California. It resembles closely the eastern species but the petal-like bracts surrounding the flower clusters are not notched at the tips and may be even pointed. These bracts measure four to five inches from tip to tip (somewhat more than the eastern species) and there are often six instead of four. The tree is also usually somewhat larger—often 30 to 50 feet high with a trunk 10 to 20

(Turn to page 57)

IT PAYS TO LISTEN

By ELLIOT MERRICK

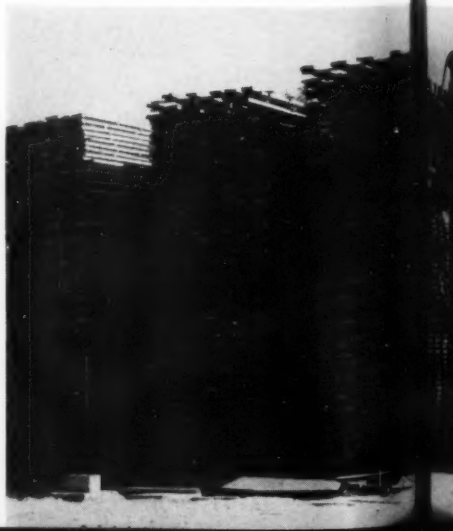


Fount Rion, manager of Florida Furniture Industries, Inc., says "Listen to first-class wood technicians who know their stuff"



THIS story can best be introduced in Fount Rion's own words. A tall, lanky good-looking Floridian with an easy-going manner, he is manager of Florida Furniture Industries, Inc., Palatka, Florida. He likes to make out he's lazy and hasn't a care in the world, but this is just good window-dressing. Being an enormously hard-working and efficient executive, he apparently doesn't care to spend much time playing the role.

"It pays to listen," says Rion, leaning back comfortably, "and the people to listen to are the first-class wood



technicians who know their stuff. You never want to sell them short. At our plant we always have time for them if they have time for us. The reason is that any moderate-sized furniture company nowadays has the devil of a time keeping up to date on the latest developments in new machinery, new gluing techniques, new core stock, new drying and lumber-handling methods, quality control, and a thousand other things. We have a lot in common with the medicos, in that so many new developments are coming out we

year for a refresher. Well, a year or so ago they made a study of our plant as a kind of test case. Walt Smith and his FUS boys from Asheville came down to Palatka and spent a week or more looking around. They crawled under machines and cooked themselves in the dry kilns and climbed all over the stacking yard and got real nice and greasy and covered with sawdust. Then they told us what we could do if we wanted to go modern. So we began to do it; and, man, has it made a difference.

hardwoods—gums, tupelo, magnolia, maple, yellow poplar—all with individual seasoning problems. We weren't doing it right, that's for sure. And like all companies, it was tough to be told we were off the beam. But we're learning."

What the Forest Service technicians drew up for Florida Furniture Industries, Inc., was an 8-year plan of gradual (and expensive) modernization. It took some tall figuring and study before Rion and his associates could start it; and Rion would be the first one to say so.



The Forest Utilization Service is helping small and medium sized furniture manufacturers to keep up with the latest industry techniques, such as new core stock, quality control, drying methods, etc.

could hardly keep up with them all if we read bulletins night and day. That's where the Forest Utilization Service comes in. They know the latest—it is their job, and they go to the Forest Products Laboratory every

The air-drying yard and kiln-drying processes were reorganized at plant

"Now, our problems, I find from talking to my friends and competitors, are much like those of other medium-size furniture manufacturers. And the main difficulty in making furniture, you'll find, goes back to one thing—water. If the moisture content of your material isn't precise and you can't control it precisely, you get exterior and interior compression and tension stresses working against each other, and that means warped tabletops, cupped dresser fronts, broken joints, and checked legs. That, in turn, means rejects, and we had a lot of 'em. I often hear furniture manufacturers talking about a big problem 'in the gluing room,' 'in the finishing room,' or 'in the machining room.' But what I've learned is that most furniture problems go right back to the stacking yard and the dry kiln—in other words, our old friend water. At our particular plant we manufacture furniture from local Florida

What they were aiming at first of all was step-by-step moisture control. Now, more than a year later, they have it. The air-drying yard and kiln-drying processes have been reorganized. Formerly, the lumber seasoning yard was badly laid out. Stacks were too close together, main alleys weren't wide enough, side alleys either, bolsters imperfectly supported, much hand labor was required, and air circulation was poor. Old, dried lumber was sometimes at the back of the yard, obstructed by new lumber. Proper rotation of lumber to meet production schedules was impossible and much degrade in the seasoning yard occurred as a result. The location of lumber piles, pile foundations, yard sanitation and weed control were also very bad, which retarded drying to the extent that lumber being placed in the kiln was often above 50 percent moisture content.

(Turn to page 51)



Revolution in TIMBER CRUISING

By N. H. SAND



L. R. Grosenbaugh of Southern Forest Experiment Station, La.



Walter Bitterlich is a forest engineer near Salzburg, Austria

THE fine old art of timber cruising is no longer what it used to be. It's a lot better. In fact, it's being revolutionized.

The revolution started in 1948, when Walter Bitterlich, a forest engineer of Salzburg, Austria, found that he could estimate the basal-area density of a forest merely by standing at selected sampling points and counting any nearby tree that registered "go" when viewed through an angle-gauge resembling a broomstick equipped with peep sights.

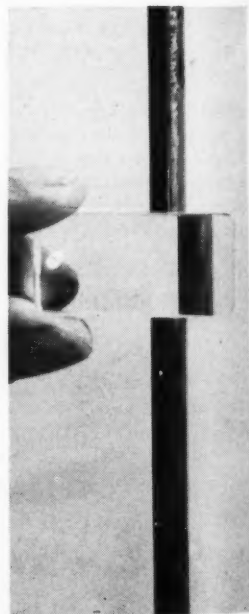
Bitterlich's idea offered speed and convenience never before achieved in timber measurement. But it yielded information only on basal area—the cross-sectional area of the tree

boles at breast height, 4½ feet above the ground line.

Then in 1949, L. R. Grosenbaugh, of the U. S. Forest Service's Southern Forest Experiment Station, New Orleans, developed the idea into a point-sampling theory that allowed individual trees thus sampled to be used to estimate not only basal area but also volume per acre, growth, and number of trees of different species or sizes.

Others evolved better instruments and helped spread the word, but Bitterlich and Grosenbaugh started the ball rolling.

The best way to estimate the volume of standing timber is a problem that has concerned foresters since



the earliest days of the profession. Because it is rarely practical to measure every tree in the stand, timber cruising is fundamentally a matter of sampling. The cruiser measures the timber on small sample plots and then blows up the sample to represent his entire area.

Through the years statistical techniques have been devised to predict the number, size, and arrangement of plots that will be most efficient for various purposes. Aerial photos help the cruiser stratify and plan his work, and modern transportation gets him to his plots rapidly.

But once on his plot the cruiser had, until recently, no choice but to do as generations of landlookers had done before him: establish the boundaries of the plot and then measure all the trees on it.

Since the typical plot is anywhere from 1/10 to 1 acre in size, boundary location can be time consuming. If the cruiser guesses at his boundaries, he runs the risk of counting either too many trees or too few. He can take along an assistant to

check plot limits with a tape measure, but assistants cost money. Boundary troubles apart, the conventional plot inevitably samples small trees more heavily than their importance warrants. This is true even when several sizes of plot are used.

Of course there are techniques and gadgets for facilitating plot measurement. Bitterlich and Grosenbaugh took a more fundamental approach. They shrank the plot down to a dimensionless point.

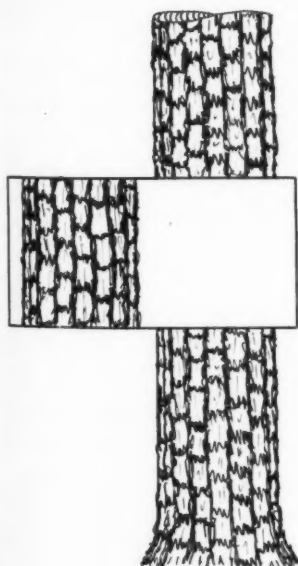
The theory of plotless timber cruising is too complex for this article, but in practice the method is simplicity itself. The cruiser stands at the point in the forest that he wants to sample, views all surrounding tree trunks at breast height, and counts all that appear wider than his hand-held angle-gauge. The sketch illustrates the idea.

Having counted the trees, the cruiser multiplies their number by an appropriate constant—10, for example, if his angle-gauge is 104.18 minutes wide. The result is the

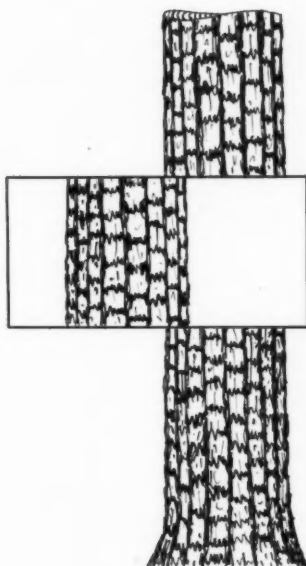
basal area per acre of the stand in the vicinity of the sampling point. If 9 trees qualify in the angle-gauge, the basal area at that point is 90 square feet per acre.

If basal area is all that the cruiser wants, he is ready to move on to the next sampling point. If he desires accurate information about the number, size, volume, or growth of trees per acre, he measures or estimates these quantities for each tree that he has counted. Office machines can then divide or multiply by appropriate factors. Volumes in board feet or cords can be approximated merely by estimating the height of each counted tree—diameter is not required for rough volume estimates, though it is needed for accurate work.

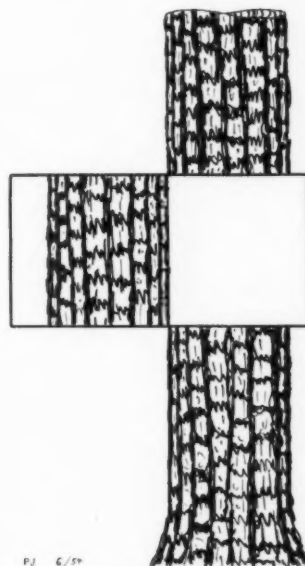
The most obvious advantage of plotless cruising, or point-sampling, as Grosenbaugh prefers to call it, is the saving in time. Another substantial advantage is that it samples large trees more heavily than small ones. As the sketch indicates, a small tree has to be close to the gauge be-



DON'T TALLY



TALLY



BORDERLINE
TALLY EVERY OTHER ONE

fore it will qualify, while a large tree will qualify at some distance.

Grosenbaugh has always taken scrupulous care to make clear that the original concept of angle-gauge counts to estimate basal area was Bitterlich's. However, Grosenbaugh developed the concept far beyond the original "variable-plot-size" idea that Bitterlich announced.

One of his first tasks was to adapt the system to U. S. units of measure, and to find an angle size that would be efficient yet unbiased in brushy southern forests—which often contain trees of many sizes and species. Narrow angles can allow trees to qualify too far away to be seen. Wide angles sample too few trees at each point.

Extensive trials indicated that an angle of 104.18 minutes is a good compromise for southern conditions. With this angle, a tree 1 foot in diameter will qualify if it is within 33 feet of the sampling point; a 2-foot tree will qualify within 66 feet. A merit of this particular angle is that it allows the tree count to be multiplied by 10. Different angles,

of course, would require different multipliers. Where trees are very large, or undergrowth is exceptionally dense, larger angles may be preferable.

With these rudiments in hand, Grosenbaugh turned his attention to extensions of the method. After some thought, he realized that the angle-gauge, in effect, merely tells whether the sampling point is inside or outside a huge imaginary ring that encircles each tree and is proportional to the tree's cross-section. This means that each tree has a different probability of being sampled, the probability depending on its basal area, the size of the angle gauge, and the number of sample points. Where individuals have unequal chance of being sampled, modern statistical theory has provided techniques for blowing up the sample: the quantity sampled need merely be divided by its chance of being sampled. Thus, Bitterlich's angle-gauge becomes a special case of sampling with probability proportional to size.

When Grosenbaugh had devel-

oped the technique until it could yield all a conventional cruise does, and more besides, he began to promote it. He led off with an article in the *Journal of Forestry* for January 1952, and followed with other publications and with discussions and talks at foresters' meetings.

By now he was chief of the Division of Forest Management Research at the Southern Station and had a wide acquaintance among public and private foresters throughout the United States. His day-to-day work in designing experiments and analyzing data had already gained him a reputation as a biometrician and mensurationist. Even so, foresters were slow to believe that point-sampling could really come up with the right answer.

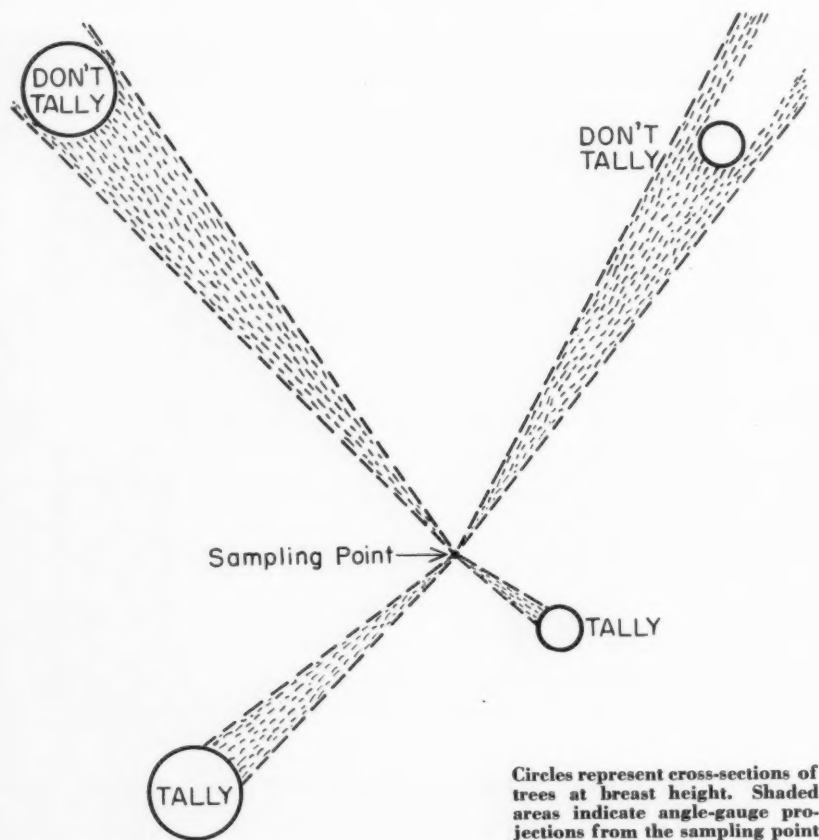
Some reasoned that it must be good if Grosenbaugh said so, and took to the woods with home-made angle-gauges. More numerous were those who were willing to believe if they could be convinced. A small group, perhaps taken aback by the novelty of the method, openly disparaged it.

In person and by correspondence, Grosenbaugh undertook to resolve doubts and allay suspicions. He went to meetings and read papers, explained over luncheons and dinner tables, and elucidated in hotel lobbies until late at night. He diagnosed erroneously calibrated gauges, faulty sampling techniques, and other causes of error. He explained the trigonometry behind his published tables of factors. He cited statistical theory to show that point-sampling with probability proportional to size is unbiased. Language about the standard error of the mean, interquartile variation, quartile skewness, and contagious populations whizzed through the mails and ricocheted from the walls of meeting rooms. It was rough going. Some of his best friends had early doubts.

What was especially needed was a large-scale trial to demonstrate the accuracy and efficiency of the method and vindicate the theory. Funds were lacking, however, and the press of other duties was very heavy.

But all foresters are mensurationists at heart, and no man fights alone forever if his cause is good. The U. S. Forest Service's Division of State and Private Forestry, at Atlanta, Georgia, pitched in and taught many state and industrial foresters how useful point-sampling could be. And just at the right time, two oth-

(Turn to page 66)





Miss Cortez James, 19, of Big Fork, Ark. was a national winner in 1956 program

4-H and Forestry

By BETTY FADELEY

THE tenth anniversary of the National 4-H Forestry Awards Program finds 63,328 young people enrolled in these programs in 45 states—a predominantly rural group that represents one of the most lucrative manpower pools in the nation in this business of supplying trained foresters and agriculturalists for the future.

Last year 221,777 4-H members received forestry training in connection with their various projects. In completed projects, 460,016 acres of woodland were worked over.

The 4-H forestry program has as its objectives: to develop an appreciation of our forest resources and the need for conserving them; to learn the value of the farm woodland as a source of income; to understand good forestry practices; and to recognize the need for keeping America green by preventing forest fires.

Extension Service of State Agricultural Colleges and the U. S. Department of Agriculture conduct the 4-H forestry program; and the awards are donated by the American Forest Products Industries, Inc. on behalf of the nation's wood-using industries. The program is arranged and announced by the National Committee on Boys and Girls Club Work.

Each year awards are made in three categories—county, state, and national—to 4-H boys or girls whose forestry projects or activities have been outstanding. Gold-filled medals of honor are provided for the county winners, and the state winners are recipients of fountain pen and pencil sets and certificates of honor. Twelve national winners are selected, one from each of the four

Extension Sections and eight at large. These national winners receive all-expense paid trips to the National 4-H Club Congress.

Two girls were among the 1956 national winners, Cortez James, 19, of Big Fork, Arkansas, and Cherry K. Wurtsmith, 16, of Denver, Colorado. Cortez had just completed nine years of 4-H work in which she majored in forestry. On a 10-acre demonstration plot, a gift from her father, Cortez used the power saw to fell trees, cutting them into $3\frac{1}{2}$ cords of billets, $5\frac{1}{4}$ cords of wood and 2,600 posts of various lengths which were peeled and hauled out. Cortez had a fine planting record too. The 2,000 loblolly pines she planted last February had 95% survival in the fall.

Cherry conducted her forestry project at her mother's summer home in the mountains. She creosoted posts for fences, watched for insects and fungus growth, and planted trees on the mountain slope to prevent erosion. In her forestry work, Cherry also studied the nature and value of different species, their culture and care.

The youngest national winners in 1956 were Robin C. Warden, Painted Post, N. Y., and John M. Thomas, Montesano, Washington, both 15 years old. Robin works with his father who owns a pine plantation,

(Turn to page 50)

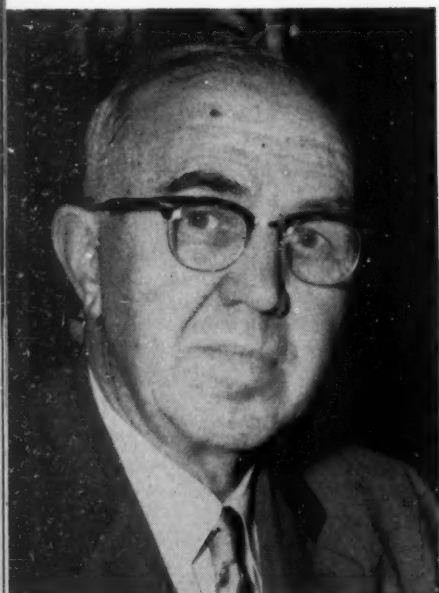


Here are the 12 national winners in the 4-H forestry program for 1956. Mr. James McClellan, chief forester, for AFPI, watches the demonstration.

Forest Products Laboratory
of the U. S. Forest Service
located at Madison, Wisconsin



Wood Research on Parade



Madison Attorney Wm. J. P. Aberg
will be chairman of the annual meeting

THE Executive Committee for the Timber Utilization Conference met in Madison, Wisconsin, on February 7 to plan the program for the October meeting of The American Forestry Association and twelve participating Wisconsin organizations. Mr. William J. P. Aberg, well known Madison attorney and long time conservation leader, will be General Chairman. Other members of the Executive Committee are: John A. Beale, State Forester, Wisconsin Conservation Department; M. B. Dickerman, Director, Lake States Forest Experiment Station; A. W. Greeley, Regional Forester, U. S. Forest Service; Dr. J. A. Hall, Director, Forest Products Laboratory; Allan S. Haukom, Secretary-Manager, Northern Hardwood and Hemlock Association; M. C. McIver, President, Penokee Veneer Company (For the Veneer Industry); Arlie M. Mucks, Jr., Manager, Convention Division, Madison Chamber

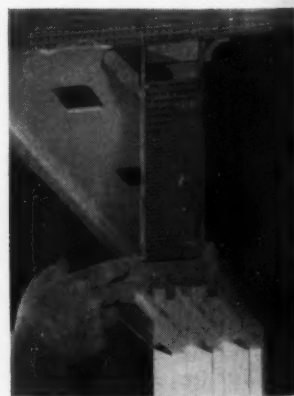
of Commerce; Norman Stone, Vice President, Mosinee Paper Mills (For the Pulp and Paper Industry); A. E. Swanke, Tigerton Lumber Company (For the Lumber Industry); M. N. Taylor, Executive Director, Trees for Tomorrow, Inc.; Fred Trenk, Extension Forester, University of Wisconsin; Dr. Harry Lewis, Vice-President, Institute of Paper Chemistry, and Kenneth B. Pomeroy, chief forester, The American Forestry Association.

Preliminary plans call for forenoon formal programs on Monday and Tuesday, followed by half-day tours through the Forest Products Laboratory, the University of Wisconsin and other nearby points of interest. Wednesday probably will be an all-day excursion to Wisconsin Dells, Crandall Plantation on Black Hawk Island, and the Devils Lake State Forest. Details of these and other trips will be announced subsequently.

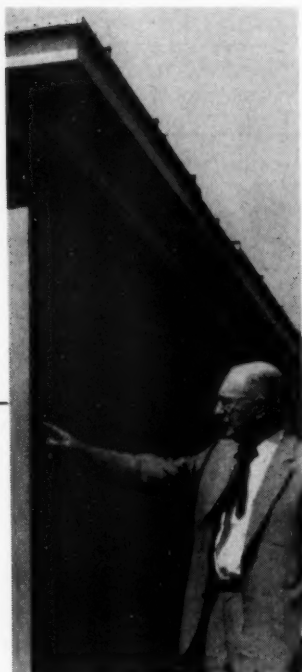
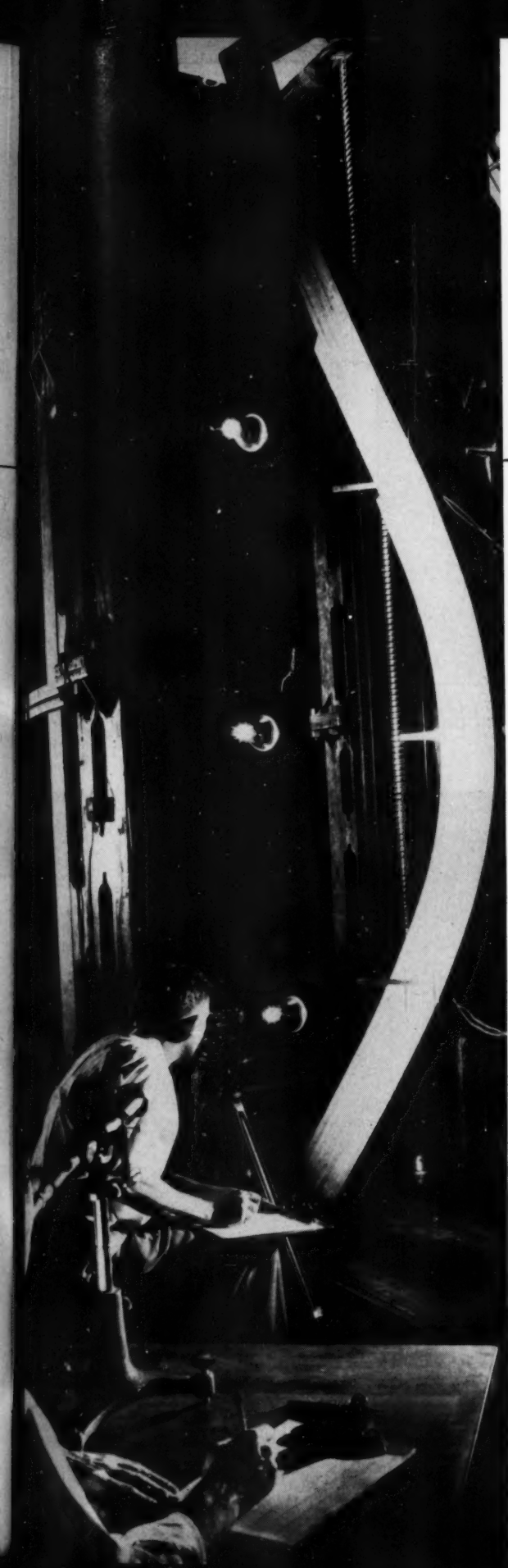
The executive committee for the Eighty-Second Annual Meeting of The American Forestry Association includes many distinguished and capable people. Keynote of this meeting to be held at Madison, Wisconsin in October will be research



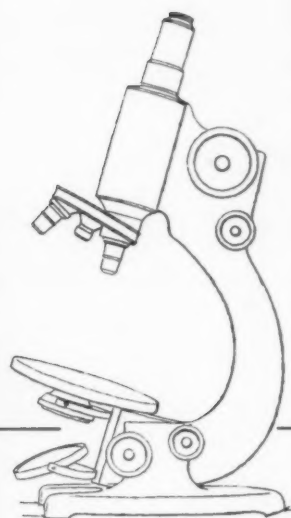
One of new products developed at Madison Lab is a paper honeycomb sandwich wall panel



AMERICAN FORESTS



Above is a test unit of the laboratory's sandwich wall panel



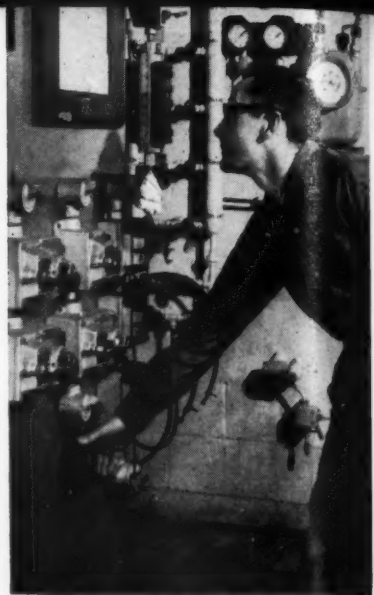
This apparently fragile paper network can be combined with plywood or other covering for sturdy house panel



◀ Testing a glued laminated ship stern in million-pound machine



This illustrated map of Madison, Wisconsin shows many points of interest you may visit on your trip to the association's annual meeting in October



Wood sugar is subjected to hydrogenation in high-pressure reaction vessel



Laboratory botanist, left, prepares section of sugar maple containing tension wood, while technologist examines tension wood

Large pulp digester at the Forest Products Laboratory, which is primarily concerned with finding new and better uses for wood

Easter Bonnets Made from Wood

NELLE CLEGG WATSON



This attractive hat has brim of pine needles and a crown trimmed with painted cones



Mrs. Vick makes handbags as well as hats from forest products

WHY not make your Easter bonnet from wood this year. The wives of members of the Alabama Forest Products Association tried it, and staged a forest products fashion show at the association's annual meeting last March.

All talk of board feet, forest management and fire control was temporarily forgotten when lumbermen from the state saw their wives steal the show at the banquet in the Blue-Gray room at the Jefferson Davis Hotel in Montgomery, with hats, bags and jewelry made from forest products.

Bonnie bonnets from Alabama's woodlands were not created by fashion designers and experts, but no one would have suspected it as judges intently tried to pick winners from the many beautiful entries.

This fashion show idea was born when Mrs. W. T. Vick (Louise), wife of the past president of the association, threw out the challenge to the wives at the 1955 annual meeting. The success of her challenge was demonstrated as the ladies arrived for the convention laden with hat boxes and mysteriously guarding their secrets. Excitement was as keen as that at any spring fashion show as boxes were hidden under

beds and "how I did it" tales were unfolded.

Hat forms, lichen, pine straw, acorns and such became household words during the year as wives of lumbermen turned their imaginative creativeness toward spring millinery. The results were so beautiful and startling that many of these ladies will never more need to go to a hat shop for that well known woman's pick-up—a new hat. Instead, as the commentator of the fashion show said, "Gentlemen, when your wife wants a new hat in the future, take her to the wood shed."

Beautiful creations guaranteed to cause an envious whisper were made from such materials as pine needles, wood fibres, lichens, pine cones and popsicle sticks. Styles ranged from large beach bonnets to diminutive after five cocktail adornments.

Lumbermen heard new terms at this convention, such as "aigrettes" of pine straw, wood fibre turbans and pine pillboxes. Models paraded before the judges and were acclaimed by newspaper and television cameramen who came to get a glimpse of this show. The female personnel of the local television station had a field day trying on the wares.

Some of the attention getter

Chic chapeaux made from wood by wives of members of the Alabama Forest Products Association, may make New York designers sit up and take notice





Dr. E. S. Harrar



Dean C. F. Korstian

Harrar Succeeds Korstian as Dean of Duke University Forestry School

DR. E. S. HARRAR has been named dean of the Duke University School of Forestry.

Dr. Harrar will succeed the school's founding dean, Clarence F. Korstian, who will reach retirement age in August, 1958, and who has asked to retire from the deanship now in order to permit a smooth continuity of administration and transfer of duties, the Duke president stated. Dr. Korstian will remain on the forestry faculty as professor of silviculture until he retires. Dr. Harrar's appointment as dean became effective March 1.

"As the School of Forestry's first and only dean," President Hollis Edens of Duke University said, "Dean Korstian presided over what is essentially a creative activity, the establishment and development of a graduate professional school. He also has been the key figure in determining the planning and operating policies of the Duke Forest. The prestige of the school and the significance of the forest in our educational and economic life testify to his contribution to the university and to the area."

Dr. Harrar, a specialist in the structural, physical and chemical properties of woods, has been professor of wood technology at Duke. He is known both for his writings and his leadership in professional activities.

Last December, Dr. Harrar was appointed to the Task Group on Forest Products of President Eisenhower's Commission on Increased Industrial Use of Agricultural Products. He has served as secretary-treasurer of the International Society of Wood Anatomists and as an executive board member of the Forest Products Research Society.

Dr. Korstian, who has been dean of the forestry school since 1938, came to the university in 1930 as professor of silviculture and director of the Duke Forest.

His career has been marked by outstanding professional leadership, including presidency of the Society of American Foresters from 1938-41; of the Ecological Society of America, 1942; of the N. C. Academy of Science, 1949-50; and of the N. C. Forestry Association, 1943-47. Also, he has been vice-president of The American Forestry Association and of the Southern Association of Science and Industry.

In 1955, Dr. Korstian received the Forester's Achievement Award from the N. C. Forestry Association, which paid tribute to him as a "distinguished educator and forester" and for "outstanding contribution to the development of forestry in North Carolina."

models shown were such numbers as: a turban of wood fibre with an aigrette of pine straw; a head hugging cloche of lichens; a coolie hat of pine cone petals, varnished to a high gloss; a pillbox of pine, circled with painted pine cones; a beanie made of wood fibre and edged with tiny painted pine cones; and a bird's nest, replete with styrofoam bird and colored eggs.

The hat which placed first was worn by Mrs. Cecil Duffy, Jr. of Dadeville, Alabama. Mrs. Duffy got all of her hat material from the woods back of her home. She made her own hat form of heavy cardboard and made her fetching creation by stapling green pine needles to form a wide brim and plating pine needles to cover the crown. Tiny brown pine cones decorated this forest green thriller.

One of the most ingenious chappeaux was a pillbox affair, created by interlocking popsickle sticks—a new method of disposal for the many such sticks which accumulate during the summer months. Another conversation piece was an up-turned wooden salad bowl covered with mauve colored tree moss and decorated with clusters of tiny, painted pine cones.

The beach hats and bags caught the fancy of many who plan to visit the coast this summer. They were made from strips of Alabama grown bamboo and adorned with painted wooden fruits and flowers. Beautiful natural colored bamboo bags were displayed too, complete with soft as silk linings and change purses.

Matching pocketbooks were featured along with the hats. Wood shaving, pine cones and pine petals were varnished and painted and glued with milliner's glue onto old plastic bags. A few accompanying items of jewelry such as earrings made from toothpicks and necklaces of china berries touched up the forest products outfits.

Owners of the hats wear them on all occasions calling for headwear. At the recent Southern Forest Fire Conference in New Orleans, outsiders got a view of what the association wives had whipped up from the forests.

Such interest has been created in the new style of forest modes that started as a convention idea with Mrs. Vick, it may well become a profitable hobby. Already she is swamped with invitations to speak on her favorite subject of conservation and

(Turn to page 48)

now, in chain saws, too,

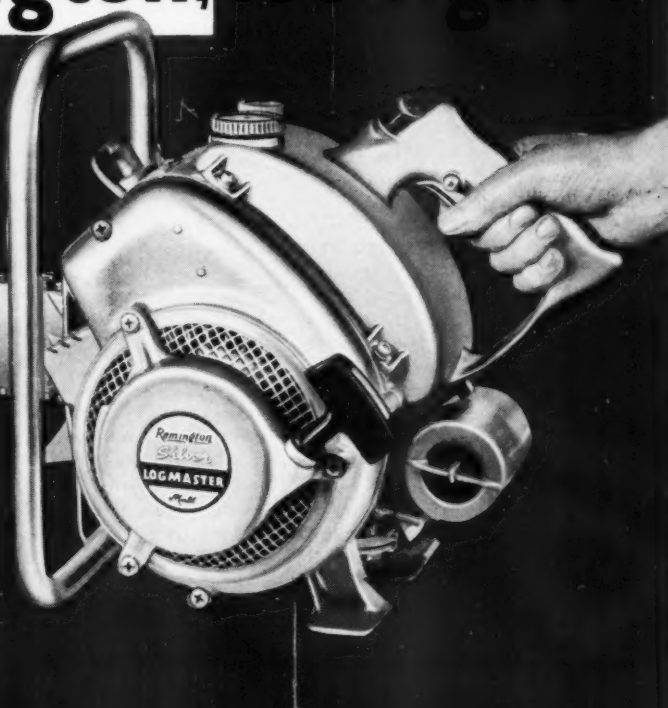
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gives you power never
before possible in a
saw in this class!

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Silver "Logmaster", in 3 hp. class, 1 cylinder, air-cooled, 2 cyls. Model Number Chain or Chain Chipper Chain, 7/16" pitch, Bar sizes, 18", 24", 30", 36" etc.

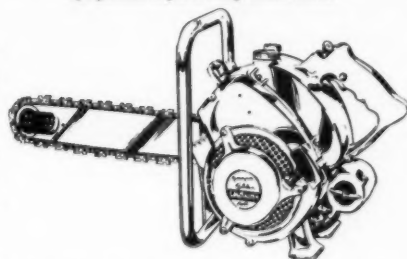
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Living Quarters for Wildlife

(From page 17)

with the men of the state fish and game departments to provide, under state laws, for better hunting and fishing for the more than 12 million licensed hunters and fishermen who visit national forests each year to pursue their favorite sports.

Together forest rangers and state wildlife experts cooperate to improve 80 thousand miles of streams and 2½ million acres of natural and artificial lakes so that there is better environment for trout, which like cold water; for smallmouth bass, which prefer cool water and for largemouth bass, which are at home in warm water. Thus, these men help to create good sports fishing through good forestry practices—a principal of land management which can be put into effect on wooded and watered areas throughout the country.

Rangers and state wildlife biologists also make surveys and plans to better conditions for birds and mammals on national forests. By bulldozing, they establish special openings for game, particularly deer and

grouse, and plant these openings and old fields to increase game foods for birds and mammals. In planting new forests, they often use special trees of value for wildlife. One such tree that may be planted is the white oak, whose acorns are a wildlife food of great value.

Acorns contain a high content of protein, a tissue builder, and a high percentage of carbohydrates that produce heat and energy—two factors necessary if turkeys, other game birds and mammals are to withstand the storms and cold weather of winter. Thus, by reserving openings needed by wildlife and by plantings to yield additional foods, the rangers and cooperating agencies increase food and improve habitat, which are two keys to wildlife abundance.

Even on small areas, wildlife habitat improvement projects can be carried out to increase the animals in your area. For suggested projects suited to the living needs of wildlife in your particular section of the country, write the National Wildlife Federation, 232 Carroll Street, N. W.,

Washington 12, D.C., and your state conservation agencies.

Part of this year's campaign in connection with "Homes For Wildlife" is to show the people who use the land—farmers, ranchers, homebuilders, engineers, industrialists—how they can manage their lands without destroying wildlife living areas.

In times-gone-by (the one-crop patch farming era), the bobwhite quail, primarily a bird of the farmlands, was abundant in the South. The abundance of the bird was due to plenty of natural food and cover. More recently, as a result of grassland farming practices and the management of woods for timber products, bobwhite quail populations have dwindled due to changed and poorer habitat conditions. Food and cover are furnished for the quail, by planting *bicolor* and *sericea lespedeza* to replace native growths between croplands and wooded areas. Plantings of *multiflora rose* on farms not only increase nesting and escape cover for game species, but provide stock-tight fences. And in addition to catering to wildlife's needs, such plantings also aid in soil conservation.

To determine the value of one of these substitute plants (*bicolor lespedeza*) more than 5,000 acres of typical farmland in Jackson County, Fla., were selected for improvement. Before plantings were made, the yearly quail population for two years was 30 coveys, consisting of 360 quail, or 12 for each covey. This was a density of one bird for every 15.3 acres. After *bicolor* plots were put in, a survey revealed that there were a third more birds than formerly. Instead of taking 52 birds a year, hunters bagged 144 a year after the improvements were made. And in Arkansas wildlife biologists discovered that *lespedeza* borders produced twice as many quail in a mile than natural edge growth.

Although changes in farm practices and widescale competition for the land have resulted in the destruction of much natural habitat, the drainage of wetlands has probably been the greatest destroyer of homes for wildlife. Every water area that is drained is a total loss of habitat, and the waterfowl, fur animals, and shore birds it once supported.

Once the country had 140 million acres of swamp or marshland. Re-

Facts About Forestry

Oak trees should not be trimmed during late May and June because they are very susceptible to oak wilt fungus during the season when new springwood vessels are developing. J. E. Kuntz and C. R. Drake, University of Wisconsin pathologists said sap-feeding insects are attracted to wounded parts of trees and deposit fungus spores as they feed. Painting the wounds to keep the insects out greatly reduces the number of infections. Other scientists are testing antibiotics to control this tree disease.

Length of day has a lot to do with the way trees grow, but different species behave differently under a given number of hours of light a day. Scientists at the Agricultural Research Center, Beltsville, Maryland found that tulip poplar stopped stem growth after only 10 days of short-duration light, but American elm continued to grow during 140 days of 8-hour light. This explains why elms in the latitude of Washington, D. C. often have limb tips killed by frost.

Water plays a role on this earth surpassing in importance that of any known substance. It is even more

essential to life than air; at least it must be present first. Were a seed completely dry, it would never germinate when you plant it. Locked within the dry impervious shell, every seed contains some water. The germ of all life exists only in the presence of water. Natural History LXV (10):518, Dec. 1956.

How long can a man survive in the shade without water? Only 2 days in a maximum daily shade temperature of 120° F., but 10 days at 70° F., according to William H. Allen. Ten quarts of water would enable him to survive an extra day at 120° F., but he might live a total of 20 days at 70° F. in the shade. Body dehydration of 25 percent is probably fatal at any temperature.

Control of forest fires in East Texas has been aided greatly by an organization of 588 volunteer neighborhood groups with a total membership of 3000 local residents. Using their own farm and special fire fighting equipment, these volunteers have assisted the Texas Forest Service materially in suppression of forest fires.



The Universal 'Jeep'. The rugged 'Jeep'* is ideal for cruising forest tracts or for contact work between office, mill and woods. With the extra traction of its 4-wheel drive, it goes almost anywhere, on the road or off, in good weather or bad. Its short turning radius and low silhouette make it ideal for maneuvering under tree limbs in wooded areas.

How 'Jeep' all wheel traction speeds tough lumbering operations!



The completely New Forward Control 'Jeep' FC-150 Truck. It's the first time a 4-wheel drive truck has so effectively combined so much cargo capacity (74 inch pickup box), with such exceptional "go-anywhere" maneuverability (81 inch wheelbase).



The 'Jeep' Station Wagon. This spacious 4-wheel drive utility wagon transports supervisors, crews and equipment for surveying, fire patrol or timber marking. It carries six passengers, or up to 110 cubic feet of bulky equipment, on the road or off.

Vehicles in the 'Jeep' family are made to order for tough lumbering operations...they are the only 4-wheel drive vehicles in their weight class engineered completely for 4-wheel drive off-the-road use.

In the heavy rough going of lumbering projects, the extra traction of their 4-wheel drive takes men and equipment through mud, snow, soft earth, up steep grades or over pioneer roads—in good weather or bad. 'Jeep' vehicles go where ordinary vehicles can't. In timber scouting, patrol work, tree seeding, road building or general conservation, rugged 'Jeep' vehicles earn their keep every day of the year. On the highway, they travel at top legal speeds in conventional 2-wheel drive.

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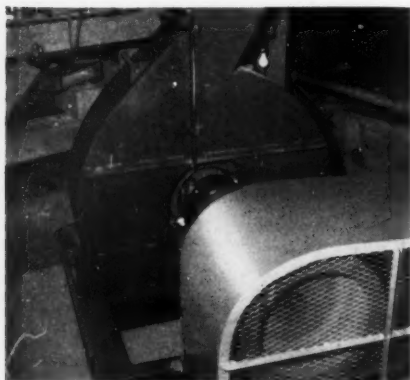
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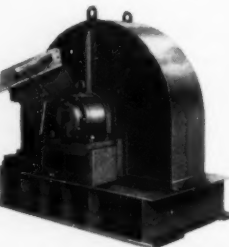
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cent surveys by the U. S. Fish and Wildlife Service show that there are now about 76 million acres left. Of this, only slightly more than 23 million acres are of high or moderate quality for waterfowl, though many of these remaining wetlands areas produce other kinds of wildlife. It has been estimated that 95 percent of the American fur harvest comes from wetlands, and the fish production value of such areas is incalculable—not only in terms of sport, but of economics.

(In Missouri the great Mingo Swamp was drained—a costly “reclamation project,” which destroyed acres of productive wildlife land. Starting in 1944, 33 square miles of this swamp were restored by the U.S. Fish and Wildlife Service and the Missouri Conservation Commission. In the fall of 1955 limited hunting use was permitted on this area, north of Poplar Bluff, and by the summer of 1956 fishing was also allowed. And in less than a year restoration of wildlife use at Mingo resulted in the establishment of 15 new businesses within five miles of the area!)

About 4,500,000 acres of the remaining wetlands are the potholes, marshes, and sloughs of the Dakotas and Minnesota. The value of these areas is shown by the fact that in wet years as much as 20 percent of the entire continental waterfowl population is produced in these three states alone. Although the value of this wetlands habitat is recognized, drainage here continues

at an alarming rate—from 1943 to 1954 nearly 1 million acres were drained and lost to marsh wildlife production. And throughout the country, there are continuing drainage programs to “reclaim” productive wildlife lands for submarginal agricultural use. Although some reclaimed areas prove profitable, such robbing of “Peter” does not always pay “Paul”; for the cost of draining many areas has exceeded the dollar yield from crops. And for others the cost of drainage and the profit in the crops are made “practical” only by government subsidies. Therefore, before areas are drained, it might be wise to determine whether the cost of such projects including the destruction of wildlife habitat will be more than offset by yields from the reclaimed lands. As Werner O. Nagel, senior biologist of the Missouri Conservation Commission, says, “If we unthinkingly plot the destruction of wildlife habitat, we are undermining the whole structure of natural resources which are the foundation of our entire economy, and indeed our very existence.”

The answer, then, to providing homes for wildlife is only by coordinated resources planning. Such planning must have a balanced consideration of all resources—soils, forests, and waters—so that these resources are developed to their greatest potential. This method—the method employed in managing national forests—results in improved habitat, the key to more abundant wildlife.

Which Men? What Needs?

(From page 23)

that “the most accessible” is always “the best” in education, in art and in entertainment as well as in recreation.

Up until now the original purpose of the national parks and monuments has been fairly well preserved, partly as the result of a more or less conscious policy, more perhaps because limitations of money and time have slowed down the tendency to pervert it. But now that the integrity of the parks is being increasingly threatened by would-be exploiters as well as by the simple pressure of an increasing population looking for “recreation”—a definite policy of protection from both ought to be formulated. Along with the question of “good roads,” especially

within the parks themselves, it would have to consider all the other “improvements” and “facilities” proposed and sometimes provided.

The criteria for judging them could be quite simple: permit only those improvements and facilities which encourage the use of the parks for their legitimate purpose. That need not mean going so far as one of their defenders who recently insisted that nothing should be done to encourage the visitor to stay more than overnight at most. Twenty-four hours is simply not enough for more than the most superficial observation and it encourages rather than discourages the tendency to make the parks mere stopping places for car owners. But he was right to

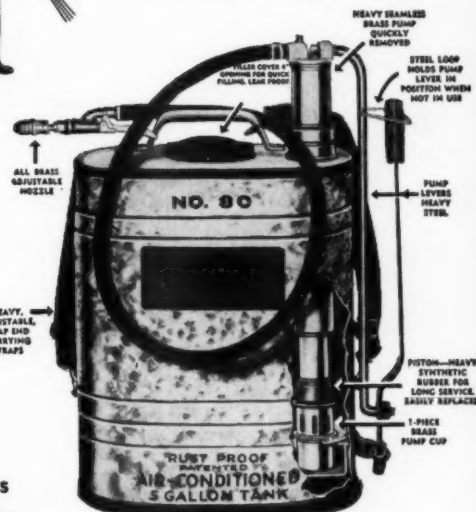


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WRITE — Dept. AF-4

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insist that parks should not be turned into resorts. And the distinction should be, not *how long* the visitor stays, but *why* and *under what inducement*. That would mean no golf courses or tennis courts, of course. Also no public radio, television or movies, except movies having a direct bearing upon subjects relevant to the park itself.

Yellowstone, once one of the finest reserves, is now so over-crowded and cluttered that it suggests an amusement park more than a natural area. Dances and community sings are provided—which may entertain the visitors but certainly encourages perversion of its original purpose. Everything should be done to encourage the visitor to enter as deeply as he can into whatever is unique in the natural features of the area; everything to discourage irrelevant interests and activities. Why, at a time when unspoiled nature is becoming rarer and rarer and even reasonably accessible specimens of it are dangerously threatened by the number genuinely interested in them, should additional thousands be encouraged to use them for activities equally well indulged elsewhere?

The other criteria for determining which activities are and which are not legitimate are equally simple: only those should be permitted which, besides being impossible in conventional resorts, neither transform the environment in such a way as to make it conspicuously artificial rather than natural nor are likely to destroy its usefulness to future generations. Obviously hunting comes under one head; "nature study," including photography, under the other. Only one man may enjoy

killing an animal. It cannot be shot again. But it may be photographed a thousand times—as some of the deer at Grand Canyon probably have been. Tossing the burning brands of the public campfire over a precipice at Yosemite does no permanent damage and is a mere triviality. But it is not far removed from a display of fireworks and not much more appropriate.

Most of our wilderness areas not exploited out of existence are perhaps destined to become parks in time. Are the parks doomed in their turn to become mere resorts? Ultimately perhaps. But how rapidly will depend largely upon the philosophy which the Park Service formulates and the support it can win for it. A wise one could make them last out not only my time and yours but that for generations yet to come. As parks jealously protected they might even last much longer than the remaining stretches of real wilderness which are given no protection and were not thought to need any until the increasing pace of development and exploitation began to reach into them. Lumbermen are ready to go further and further to find trees still to be cut down. And by a curious twist of circumstance the great arid regions of the Southwest which seemed safe from man's ravages just because there was nothing there for him to ravage turned out to be the very places where uranium abounds. Possibly the loneliness and grandeur of Grand Canyon for instance will survive long after the now remoter and wilder parts of the continent are no longer either remote or wild.

Reading About Conservation

(From page 19)

though they sometimes use human beings as resting posts. A bat's vision is good, but it flies more by ear than eye. A bat guides itself by sonar or echo-location. As it flies it emits a series of squeaks of such high frequency that they cannot be heard by the human ear.

The pigmy shrew was named the smallest mammal on this continent, while the Alaska brown bear was revealed as the largest land carnivore on earth. This shrew weighs one-fourteenth of an ounce and measures two inches in length. The Alaska brown bear at maturity, about seven years, has an average weight of half a ton, and some measure eight feet

from nose to tail and stand four to four and a half feet at the shoulder.

The gopher is designated a confirmed recluse among mammals—lives alone and likes it, while the social behavior of prairie dogs resemble that of a clannish human community.

Other animals described include the beaver, whose impoundment of water is important to man's economy and wildlife's needs, and the hop-toad, who consumes crop and garden pests, and thus is worth about twenty dollars a year to the agriculturalist.

The wide range of climatic conditions and topographical areas of the North American continent have pro-



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duced diversified wildlife. Therefore, the better acquainted we become with the wild animals of the regions in which we live or of the regions we intend to visit, the more

enjoyment we will have in watching animals. *Familiar Animals of America* will do much to increase your understanding of this interesting subject.

Forest Tree Planting in U. S.

(From page 25)

while most of the production from forest industry nurseries was allocated to company lands, although some was distributed through a variety of company programs to private landowners. The stock from the Soil Conservation District nurseries went to the district cooperators.

The state nurseries' production of 580 million plants in 1956 was far short of demand. Eleven states reported that their known unfilled orders amounted to 106 million trees, and 11 other states reported shortages but did not estimate the amount. There has been a shortage of stock since the end of World War II, despite a 900 percent increase in output during the 12 intervening years. Only three states reported production greater than needed for their own program, and they sold nearly all of this excess to adjacent states.

With the interest in tree planting that existed during 1956, it is likely that state nursery production of at least 710 million plants would have been utilized. An even greater quantity will be needed in 1957 for these programs. New construction and additional sowings are now underway at these nurseries to supply the increased demand.

In addition to the trees needed under the tree planting programs of 1956, there is now the new program of planting trees on some of the lands withdrawn from agricultural crop production. This planting will be done under the conservation reserve portion of the soil bank pro-

gram. It is anticipated that this program will require about 5 billion trees and shrubs. The peak annual output of trees for this program alone probably will be one billion. Nursery development to produce soil bank stock is now underway in 34 states, most of which will be completed before the fall of 1957.

There will also be additional planting of commercial forest lands under Title IV of the Agricultural Act of 1956, but the demand for this stock cannot yet be forecasted.

The great expansion of nursery output now under way is requiring record quantities of seed, and seed-collection facilities of private seed dealers; and the states have been expanding rapidly. Although desirable seed is far from being abundant and cheap, the nurseries have next year's seed in sight.

Programs to improve the genetic quality of seed are being pushed vigorously in several states by federal, state, educational and industrial agencies. Committees representing various agencies have been formed during the past few years in each principal forest region to coordinate this work and facilitate the exchange of current knowledge among the workers.

Although tree planting in the United States has been increasing, it is getting the biggest impetus since the days of the Civilian Conservation Corps. The five billion seedlings required under the soil bank program will more than double the total number planted by the CCC.

Easter Bonnets Made From Wood

(From page 40)

give a fashion show of hats to clubs all over the state. In June she will speak and show some of her fashions to hundreds of garden club members at their annual meeting.

Requests to purchase some of her creations have come in, with fabulous prices being offered. Mrs. Vick has become so enthusiastic about the idea that she has made over fifty lovely bonnets to date, with ideas stirring in her bonnet for many more.

One promising result of the idea may well be a strengthened interest in conservation programs and activities of women's groups. What better way could be found to do this than through fashions?

There is always something new when we go back to nature to find it. Thank goodness, we're not out of the woods yet. It may be that, in the future, you can't see the forests for the hats!

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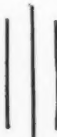
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4-H and Forestry

(From page 35)

but owns the land on which he has planted 25,000 trees. Selling Christmas trees is one of his money-making projects. John has spent four of his years in 4-H doing field work and tree planting. He has given 12 exhibits and seven demonstrations in his forestry project, winning two blue ribbons and six red ribbons.

As a 4-H member and junior leader, Robert Ahrndt, 20, Two Rivers, Wisconsin, made important contributions to his community's knowledge and practice of forestry. In his own work Robert has planted 8,000 trees to restock areas on his family's farm, while as a leader he showed members how to use a log scale, set up a photo survey, and learned the characteristics and uses of different species.

Many other phases of forestry were represented by the national winners. Marshall L. Pritchett, 19, Mackay, Idaho, learned how to restore range grasslands and conserve the woodlands. Another 19-year-old, Roymarion B. Crist, Indianola, Illinois, had as his project protecting

the wildlife and the woodland that supports it on his parents' farm.

In his reforestation project, J. D. Batson, 18, Wiggins, Mississippi, has planted more than 170,000 slash pine seedlings, which are protected by 16,000 feet of plowed and maintained fire breaks. Walter Stephens, 16, Tifton, Georgia, has planted over 30,000 seedlings, and has made a start toward fire protection by establishing lanes on 100 acres.

Jerry Paskewitz, 18, Browerville, Minnesota, worked with his father in the care of 500 acres of fine woodlands as his 4-H project; Robert M. Auman, 16, West End, North Carolina, increased the value of his father's 2,800 acres by hundreds of dollars through his forestry work; and James C. Steele, 17, Alexandria, Virginia, established one of the most noteworthy timber improvement plots to be found in Fairfax County.

All of these national winners either are attending college or are planning to attend after high school graduation. Many are using their 4-H forestry projects to earn money for their college education.

Arbor Day

(From page 8)

Treasurer — Dewhirst W. Wade, Arborist, Chappaqua, New York. In addition to these, the other 17 directors are:

Carl H. Asplundh, Asplundh Tree Expert Co., 505 York Road, Jenkintown, Pennsylvania.

Dr. J. C. Carter, Natural History Survey, Urbana, Illinois.

Keith L. Davey, Davey Tree Surgery Co., San Francisco, California.

State Senator Thomas C. Desmond, Owner of Desmond Arboretum, Newburgh, N. Y.

Professor Charles G. Geltz, College of Forestry, Gainesville, Florida.

G. Flippo Gravatt, Pathologist, U. S. Plant Industry Station, Beltsville, Maryland.

Mrs. Temperance O. Guptill, Sudbury, Mass.

V. Leslie Hebert, Tree Warden, South Weymouth, Mass.

Dr. Ray R. Hirt, Professor Forest Botany & Pathology, College of Forestry, Syracuse, New York.

J. C. Kenealy, Tree Warden, Lower Merion Township, Ardmore, Pa.

Prof. Clarence E. Lewis, School of Horticulture, Long Island Agric. and Technical Institute, Farmingdale, L. I., New York.

Donald E. Nagel, City Forester, Pontiac, Michigan.

Harold O. Perkins, Professor of Landscape Design, University of Connecticut, Storrs, Connecticut.

Wilbur L. Savage, Regional Forester, National Parks Service, Philadelphia, Penna.

Carl J. Schiff, Arboriculturist, Dept. of Parks, Brooklyn, New York, N. Y.

Mrs. Alice E. Smart, Florida Nursery and Landscape Co., Leesburg, Florida.

Dr. J. Franklin Styer, Nurseryman, Concordville, Penna.

Harold P. Piser was appointed Managing Director. His address and that of the Arbor Day Association is Post Office Box 187, Flushing 52, New York.

By G. F. GRAVATT

It Pays to Listen

(From page 31)

Rion's first step was to buy a second-hand forklift, with a view to mechanizing the air seasoning and kiln drying operations. On arrival, the forklift promptly bogged down in deep sand. The lumber handlers stood around and laughed good naturedly, saying it would never work. But Rion and his assistants made it work, by laying board tracks at first, and later paving the alleys with clay and regrading the whole yard to a slope of 1 percent. The newly arranged lumber stacks were laid out in rows 4 feet apart and 3 feet between stacks running perpendicular to a 30-foot main alley. Each stack consists of three 5' x 6' x 16' packages placed on three bolsters set on three-section concrete blocks supporting each end, with blocks on a 2' x 2' x 4" concrete slab. The forklift scurried to and fro, and the lumber handlers quit laughing when one by one they were transferred to more productive jobs.

Dry kiln methods were gone over with a fine-tooth comb; and as a result, equipment, schedules, and procedures were extensively over-hauled. All instruments and gauges were checked, reconditioned, or renewed. Packs of lumber that had been wet in the middle and dry on the edges or vice versa were no more. The kiln operator and a plant production man went to a kiln drying school where they boned up on wet bulb, dry bulb, potentiometers, location of thermocouples, forced-circulation, humidity control, the adaptation of Forest Products Laboratory kiln schedules to the local kilns and a thousand other technicalities of this science-art. Before he went, the kiln operator had so many daily problems that he had been threatening to leave every week.

Formerly, the company hadn't known the moisture content of lumber moving from the yard into the kiln, or exactly what would come out either. Every day was fraught with uncertainties, and the source of "unexpected" trouble was often hard to pin down. Now 18 months later, all this is changed. They know what's going into the kiln and they can predict within 1-percent moisture content what will come out. The kiln operator makes no more mention of looking for a new trade. Everyone in the plant has been affected, and beneficially so. Because of the new system of meter readings, rec-

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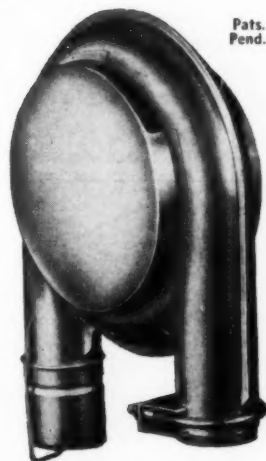
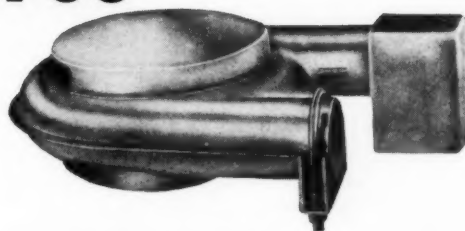
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ords, and step-by-step moisture control, it is now possible to track down the source of any glue failures, any upsets, machine by machine, and remedy the trouble. Even the Yankee quality-control expert, Leroy Rand—who comes from up Bangor way and is consequently known to his Deep South associates as "The Maine-iac"—is accepted as a worthy member of the team and smiled upon by the greybeards. Now that good work isn't unexpectedly nullified by sudden mishaps, there's a new spirit and a new satisfaction from top to bottom. And everybody knows that Lee-roy is an essential element of the sunnier work-week.

All is not perfect yet. These are only the first steps in what was to be an 8-year plan of technological improvement. The current changes have been carried on one at a time, piecemeal, by heroic measures, for production has had to continue, and the books still have to balance.

The program has been successful at this plant largely because company officials and department foremen were sympathetic. This did not just happen, but is the result of a company personnel policy that includes periodic conferences of plant foremen with company officials to discuss problems and possible changes. Each foreman in the plant took a personal interest in the quality control program developed for his department and the details were worked out with the men who had to do the work.

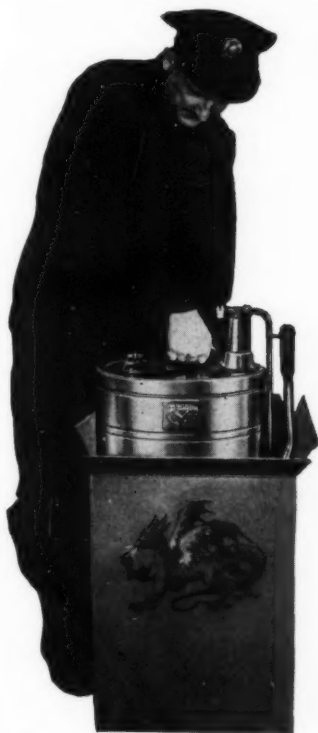
A small sawmill plant is operated in connection with the furniture plant, but under separate supervision. This mill cuts the majority of lumber used in the furniture plant. A great deal of the lumber being produced was miscut. A cursory examination of the mill indicated that a great deal of improvement could be made here. And in view of this, the Forest Service technicians decided to call in a sawmill specialist from the Forest Products Laboratory. He visited the company in May, 1956 and made complete recommendations concerning the sawmill setup. Two of the major improvements recommended in his report were to (1) move the sawmill to a more spacious location beyond the air seasoning yard to develop a more efficient flow of lumber, and (2) consider the installation of a new 6-foot band mill. Detailed recommendations for improving the present mill setup were given concerning lumber handling, saw adjustments, mill alignment, etc.

Following the original visits and recommendations, periodic visits to the company have been made to review progress and consider new problems that are inevitable with changes.

Results already are impressive. Mechanized stacking has eliminated seven men's fulltime labor. Bottle-necks and shortages are gone. "We've cut way back on our overstocks, and that eliminates wasting labor by handling material twice. Once you waste labor, you can never get it back; did you ever think of that? Well, we're narrowing our problems

down, and running the plant has become a lot of fun instead of a nightmare." From approximately the same amount of lumber as before, the plant is turning out some 12 percent more furniture.

"Suppose," says Rion, "we don't count the rise in quality of output and the increased production. Suppose we value my sanity at nothing either. These expensive improvements have practically paid for themselves in labor savings alone. With the many new techniques being developed constantly, I think that our 8-year plan will be expanded



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GREAT SMOKIES SADDLE TRIP

The spring saddle trips in the Great Smoky Mountains National Park, North Carolina, have been so successful that the association has scheduled another this year, for the dates of May 22 to June 1. Headquarters for the party of 20 will be the Cataloochee Ranch. The itinerary calls for a three-day pack trip from a base camp, including a ride to the crest of Mt. Sterling. Seven nights will be spent at the ranch with rides to Sheepback Lookout, Purchase Mountain, Paul's Gap, Balsam Mountain and other interesting points. Plan to ride in the Smokies this spring when the colorful wildflowers and flowering trees are in bloom. \$200 from Asheville, North Carolina.

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and continued on indefinitely. We've only just begun, and we never want to lose our enthusiasm for a program of improvement. I hope that our experience, and the experiences of others, can be joined together to remove many of the obstacles confronting the wood industry today."

Wildlife Management

(From page 14)

lands drainage. Originally the nation had 127 million acres of wetlands. As of today, at least 45 million acres have been destroyed and another 45 million acres severely reduced. Is this good? It certainly would not seem so from the standpoint of renewable natural resources and the shrinking water table, but here again good, solid research answers are needed. As Dr. Leonard asked, "How long can we continue, safely, to force nature to our will?" In Wisconsin, it has been found that wetlands drainage has a very direct bearing on shrinking water tables which in turn drive new industry away which in turn is injurious not just to waterfowl—but to everybody.

These are very real problems not only in terms of wildlife but in terms of the national welfare itself. So is it any wonder these professionals are strictly "from Missouri" until they see (what Selke called) mere "investigations" and "surveys" converted into full-fledged, long-term scientific research projects?

As forest research people know, and as Dr. Leonard stressed, "the man called to research is self-impelled by his own curiosity." The urge to know is very strong in such people which accounts for their staying on at such agencies as the Fish and Wildlife Service. Mr. Leffler's assurance that he plans to upgrade salaries will, of course, mean much to these people who have to pay their bills the same as everyone else. But it will mean immeasurably more, if it materializes, in encouraging smart young people to take up wildlife research.

On the broad research front, Director Alan T. Waterman, of the National Science Foundation, said, "As I see it, science enters into the matter in several important ways. First and most obvious is the need for fundamental research to provide needed data and to illumine our conservation practices; second is the need for training young scientists to work in ecology ("The mutual relations, collectively, between organisms

and their environment"—Webster) and related fields; and third is the need for scientific data to guide the development of policy with respect to the innumerable and complex problems that confront our government in this field . . ."

This leads, as night into day, into the field of education. Is wildlife education important to forestry? The late Dr. Eschmeyer, of the Sport Fishing Institute, always strongly contended that it is. To the public, wildlife represents the common denominator, the best link, whereby people ultimately may be sold on the importance of all the renewable resources and their relation to each other, Dr. Eschmeyer claimed.

This would appear to be especially true in the case of young people. But adults also have a penchant for facts and practical answers that wildlife, due to lack of research, is not always able to provide. Hand a forester a set of questions on the potential of a given forest or woodlot and he will, thanks to good research, tell you whether it is too densely populated with trees and ought to be thinned, what the potential growth rate is, protection measures that should be taken, and what the harvest will be three, 10 and 15 years from now. But ask a wildlife specialist the same question on the game-carrying capacities of the same area and his answers are often much less exact. Nothing succeeds like certainty in selling something—all which would indicate that more and more research is the crying need of the comparatively young wildlife profession.

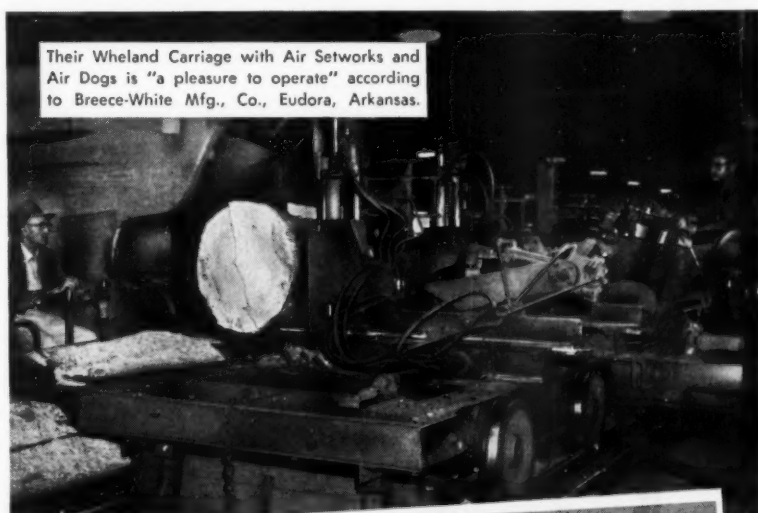
Another thought was injected into this year's conference that was at odds with a point of view expressed many times a year ago. Don't be afraid to "put the dollar sign" on conservation, Lloyd E. Partain, of the Curtis Publishing Company, told the delegates. "I am quite sure that many people who should become readers of conservation subjects feel that conservation is expensive, increases their tax bills, and is primarily a bureaucratic governmental endeavor. Conservationists and conservation organizations are, in a great measure, responsible for this situation. The 'conservation pays everybody' story has not yet been forcefully told and cannot be until it becomes a fact, indeed."

Mr. Partain pointed to forestry as one field where the "conservation pays everybody" theme has been utilized effectively. In addition to stories

accenting the fact that good forestry can be profitable as well as useful, Mr. Partain pointed to the Weyerhaeuser Timber Company's "Tree Farm" advertisements and the Smokey Bear Fire Prevention Program as outstanding examples of converting white space into effective educational material. Television, which is aiding printed periodicals rather than hurting them, is another largely unexplored medium from the standpoint of conservation, Mr. Partain said. Finally, he said that "fresh, vital and often practical viewpoints are needed in much of our conservation literature." Some progress is

being made by certain association magazines, the speaker noted. "I would point to *American Forests* as one example, where the open-forum-via-print technique and other interest-getting styles of journalism are being used effectively."

One going forestry program that recognizes the interdependence of all the renewable resources is the Trees for Tomorrow organization sponsored by Wisconsin industry. Its Executive Director, M. N. Taylor, participated on the education panel of the National Wildlife Federation. During the past 13 years, his organization has distributed over seven



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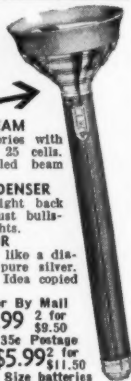
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million trees to 6,537 landowners, machine planted another 5,600,000 trees for 352 people, put 184,000 acres of forest land under management for 541 people, and entertained more than 24,000 people at its famous Trees for Tomorrow Camp where a broad-gauge resource management course is taught. Industry can help resource programs plenty, Mr. Taylor stressed, and moreover it is doing so.

On the same panel, Dr. Julian W. Smith, director of the Outdoor Education Project of the National Education Association, Michigan State College, revealed that a survey of the 28,000 high schools and 2,000 colleges and universities in the nation showed that 12 percent already have some outdoor education activities in the curriculum, but that 55 percent of those responding asked for assistance by way of leadership training in initiating outdoor education programs."

To spearhead and speedup the preparation of better leadership in outdoor education for schools and colleges, the American Association for Health, Physical Education and Recreation, in cooperation with industry, developed the Outdoor Education Project, Dr. Smith reported.

Two of the finest statements at the conference were those presented by Dr. Waterman, already referred to, and an address "A Layman Looks at Natural Resources" by Mrs. John G. Lee, president of the League of Women Voters. The Wildlife Management Institute has given *American Forests* permission to publish these two statements in their entirety in a future issue of the magazine.

One warning note at the conference was sounded by Andrew J. Biemiller, director of the legislative department of the AFL-CIO. In reviewing the record of the present Administration, Mr. Biemiller said that in view of increasing popula-

tion and more leisure time "I'm sure it is clear to everyone here that greater efforts will have to be made by people interested in conservation and the people interested in natural resources policy generally if we are to meet the challenge posed by a growing nation."

The labor movement has a direct and vital stake in conservation, Mr. Biemiller stressed because it hopes that more leisure time will mean that more and more people will return to the forests and rivers and lakes for the rest and recreation that only nature can provide.

While the AFL-CIO does not consider itself a permanent member of the public power bloc, Mr. Biemiller said it was fighting for the high level Hells Canyon Dam and that he believed labor should have the cooperation of conservation groups. The Hells Canyon Dam will make optimum use of the Snake River and would, among other things, create "a sportman's paradise and a spectacular recreational area in what is now a primitive wilderness," he said.

The man who had the last word at the conference was Dr. Leonard, the conference summarizer. He lauded plans for long-range research programs. On education, he said to always remember that "you are not talking to a fixed audience; you are talking to a parade and consequently education can never relax." Above all, remember that "fishing is fun" for millions of American sportsmen and the same is true of hunters. "It is our job to see that it stays that way."

When one stops and thinks that it was only a few years ago that passengers on transcontinental trains shot buffalo out of their car windows as a form of wholesome sport, it is apparent that wildlife management has made solid gains. As Dr. Eschmeyer claimed, wildlife appeal can greatly aid in selling the forestry story too as research provides more and more definite answers. Of significance, it has always seemed to us, was certain evidence brought out as regards wildlife at the Southern Forest Fire Prevention Conference of a year ago. Convicted arsonists in some cases were largely unmoved by charges that they had set the forests afire but the same individuals protested vehemently when charged with destroying valuable wildlife, particularly nesting birds. There has to be a lesson here in this job of educating the public—of seeing to it that "conservation is everyone's business."

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Dogwoods

(From page 29)

inches in diameter. It has the attractive form, foliage, fruit and autumn colors of the flowering dogwood but does not grow well in the East. It is an excellent tree for planting on the Pacific Coast. An outstanding characteristic is that it often flowers a second time during the late summer when the dense clusters of fruit produced by the first flowers are turning red.

The Japanese dogwood (*Cornus Kousa*), which was introduced into the United States in the 1870's and is now widely grown in gardens, differs in some of its ornamental features from the two native species described. The creamy white flower bracts are distinctly pointed, often taking on a pinkish hue with age; they open several weeks after our flowering dogwood and last for a longer period—often as much as two months; this gives the tree special value in certain locations. Also because it blooms after the leaves, the white, starry blossoms, borne in great profusion, give a striking contrast to the dark green of the foliage. The fruit is also distinctly different. In place of the clusters of individual red "berries," the fruit of Japanese dogwood consists of fleshy, pinkish-red "heads," suggestive in appearance of strawberries. A small, flat-topped tree, it attains a height of about 20 feet. Like our flowering dogwood, it has the characteristic branching with the blossoms borne in tiers; it also may be shrub-like. The leaves are smaller and more slender and take on an autumn coloring. From a cultural standpoint there is no great difference and the Japanese species can be used in many places—as a single tree or shrub, or among other trees or shrubs. A single specimen with native dogwoods as a background makes a pleasing combination. The Japanese dogwood is easily transplanted but smaller specimens (less than six feet tall) may suffer injury from northern winters. They should be planted in the spring with a good ball of earth and covered with burlap as with the native species.

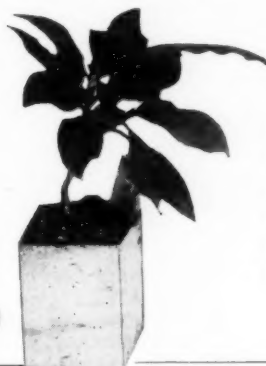
There is a variety of *Kousa chinensis*, called Chinese dogwood, which is very similar to the species. The bracts of the Chinese variety measure about two and a half inches in length compared to one and a half inches for *Kousa*.

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There are a number of native dogwoods that lack the showy bracts of the three species described but have attractive features that make them valuable as ornamentals. Although inclined to be shrubby, they often take on a tree form.

One of the most common of these is the alternate-leaved of pagoda dogwood (*Cornus alternifolia*)—the only native dogwood species that does not have opposite branching. As a small tree or shrub it commonly grows to a height of as much as 20 feet. Its natural growth range includes nearly all of eastern United States, where it is found usually in moist situations and rarely on the higher ground where the flowering dogwood occurs. The leaves, which are gradually contracted into long slender points, are borne near the ends of the branches. Cream-colored flowers in flat-topped clusters about two inches across appear from the beginning of May to the end of June. The dark blue-black, berry-like fruit, about one-third of an inch in diameter, is in loose, spreading, red-stemmed clusters, and the leaves take on yellow and scarlet autumn tints. In winter the greenish branches form an attractive pattern because of their arrangement in irregular whorls which form horizontal tiers.

Alternate-leaved dogwood is not of special value as a lawn specimen; it serves to best advantage as a background and in solid banks for large landscapes. Because of its intricate branching it can be pruned to various shapes. Specimens are easily transplanted. They should be freshly dug and, except for plants three feet and under, which may be handled with the roots bare, they should have a large ball of earth.

Red-osier dogwood (*Cornus stolonifera*), of northeastern and western United States, owes its attractiveness in large part to the dark blood-red branchlets. The leaves are dark green above and whitish beneath, the flowers white in flat-topped clusters up to two inches across and the fruit white or bluish white. Growing to a height of about eight feet, it is often shrubby with prostrate stems that take root where they come in contact with the ground. There are a number of varieties with branchlets of different colors. Like the alternate-leaved dogwood, it is useful mainly in mass plantings.

In addition to Japanese dogwood several exotic species are commonly grown as ornamentals in the United States. One of these is the Cornelian

cherry (*Cornus mas*), so called because of its large scarlet edible fruit. A large shrub or small, spreading tree, it reaches a height of about 25 feet. One of the earliest blooming shrubs and trees, the stalked clusters of tiny yellow flowers, which appear before the leaves, produce a striking effect. The bright flowers are followed by dark green foliage. In late summer the scarlet fruit, of the shape and size of an olive, is in pleasing contrast to the lustrous green leaves which remain green until late fall, ultimately turning red and yellow. It has been widely planted in the United States for many years. Native to central and southern Europe and western Asia, it has been cultivated since ancient times.

Cornelian cherry is vigorous in growth and makes an excellent shrub. Densely branched, it takes on a solid, rounded form, as much as ten feet in diameter. It can be used as an individual specimen but is more suitable for mass planting or among groups of trees. The fruit, of a pleasant acid taste, is sometimes used in countries where it grows naturally as a substitute for olives and for preserves.

Japanese cornel (*Cornus officinalis*) is a small tree or shrub, growing up to 30 feet in height. Resembling Cornelian cherry, it produces small yellow flowers in clusters in very early spring before the leaves and has similar scarlet fruit which ripens in early fall. It has denser growth, is a more symmetric small tree or shrub and produces flowers much more freely than the Cornelian cherry. These features make it more valuable for the same decorative uses.

Giant dogwood (*Cornus controversa*), a native of Japan and China, resembles alternate-leaved dogwood in its branching and other features, but is somewhat larger, attaining a height of 60 feet. In May or June it bears small, whitish flowers (sometimes tinged with yellow) in flat clusters, three to six inches in diameter, borne on erect stems above the horizontal tiers of branches. The dark green, glossy leaves are whitish underneath and the bluish-black berry-like fruit matures in late summer. Its horizontal branching and dense foliage combine to make this tree very desirable as an ornamental. Like most of our native dogwoods, the leaves take on a reddish hue in the fall. It is said not to be susceptible to the twig blight which seriously injures alternate-leaved dogwood.

Forest Forum

(From page 4)

Tornado in the Pines

EDITOR:

In his report on "Tornado in the Pines," February issue, Don Neal seems almost glad the violent windstorm demolished Cook Forest in Pennsylvania after the public refused to let foresters manage the tract. Also, in the earlier, conspicuous portion of his article he almost implies that if the forest had been handled the way he thought proper, the tornado would not have struck the place. I think he has missed the point of the purpose of such a spot as Cook Forest. We want a few unmanaged spots in this country even if the trees eventually rot and fall over. Finally, from the standpoint of the forestry science, didn't Mr. Neal ever become aware of the necessity of having a check plot which is untreated (unmanaged) to compare with treated (managed) plots. If Neal feels the events of last year proved the value of some forestry practices, then the Cook forest has been of great value which it would not have been had it been disturbed by foresters.

Howard W. Hintz
Asst. Prof.
Heidelberg College
Tiffin, Ohio

Let All Points of View Be Heard

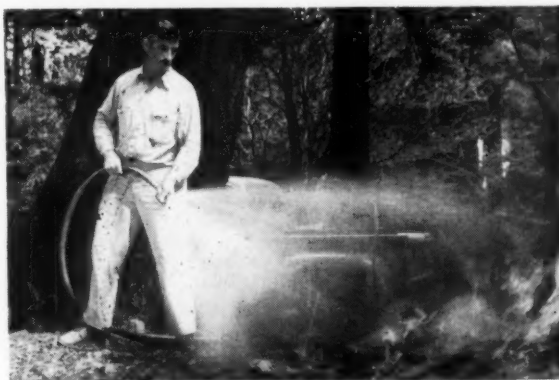
EDITOR:

I was first introduced to the AMERICAN FORESTS magazine in 1950, and I enjoyed the magazine so much and found its principles so worthwhile that I have remained a member of AFA ever since. It had appeared to me that yours was an organization which not only was dedicated to the conservation and wise use of our resources but which also had a feeling for those values other than timber which our forests furnish. I have not always agreed with your editorial views on controversial matters, but it has always appeared to me that you have made a sincere effort to understand both sides of the question involved and present the pros and cons fairly. However, in recent months I have been forced to wonder if I was mistaken, or whether your policy has changed.

Articles such as "Forest Management versus Recreation Management" by Harry R. Woodward in your January 1957 issue, and "Tornado in the Pines" by Don Neal in your February 1957 issue, no doubt contain some truth. They may be more applicable to their sections of the nation than the points cited are to mine, but basically they appear to me as a sneer to discredit those who love the beauty of an undisturbed forest or woodland.

I realize that most of our woodlands have to be managed so as to give the greatest economic yield consistent with good conservation practice. But it seems little enough to ask that a few small areas be left undisturbed without having to defend them constantly from those who would exploit them, either in good faith or for selfish reasons.

In reading the verbal attacks which are being leveled at our park system today, one wonders how the American forests survived in the days before the arrival of the white man with his professional foresters. One is forced to believe that the



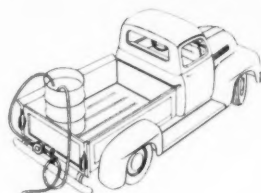
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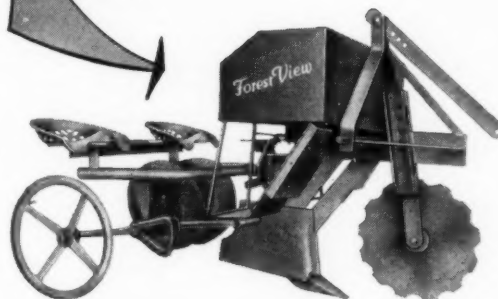
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stories concerning the magnificent forest covering a great part of our country were false, and that actually our nation-to-be was covered by a decadent stand of over-ripe trees which were of little value and ready to topple at the slightest provocation.

That Nature will harvest all trees unless they are first harvested by man is an indisputable fact. However, I cannot find it in my heart to say it is wrong for there to be some areas where all trees can die, fall on the ground and rot, and in the process furnish homes for all of Nature's beings which are dependent on this process.

For those who say that "preservationists" are violating the principles of multiple use, I would like to point out that usually the only use which is forbidden is the physical consumption of the resources involved. These areas preserved in their natural state furnish relaxation, wild life habitat, watersheds and a sense of well-being not acquired by sitting on a gummy pine stump or falling into an abandoned mine.

As for Mr. Neal's article, I consider it an insult to the intelligence of your readers. It is hard to decide whether Mr. Neal is implying that had "that special breed of men" allowed professional foresters to cut the mature pines of the virgin woodland the tornado would have gone elsewhere, or whether the tornados in Pennsylvania only destroy mature trees, or whether he was saying we should cut our nature preserves on the off chance some natural catastrophe will befall them. To me he only proved that we should have more preserves, carefully spaced, so that a natural catastrophe such as fire, tornado or hurricane would not wipe out our last samples of an original woodland type. It comes as a surprise that AMERICAN FORESTS magazine is an agent for spreading Mr. Neal's attack on our park system, an attack based on a natural catastrophe and in no way typical of normal conditions.

I have seen logging operations from the mountains to the barrier islands, and I have never seen one on public or private lands which did not leave the land and the remaining trees scarred for years. This is inevitable and justifiable on commercial timber lands, but it seems out of place in an area set aside to preserve natural beauty for the public.

It is difficult to understand the thinking of that other breed of men who seem to resent every mature tree left standing. For even if trees to them are only board feet of lumber and even if they can see no beauty in undisturbed woodland, they could at least endeavor to be understanding of the feelings of others, for after all most timber lands are managed their way. Even if they succeed in exploiting our state park systems, it will not affect our national economy, only our heritage of natural beauty.

I am frankly disappointed in the AMERICAN FORESTS magazine.

Charles H. Eastman
4805 Barber Street
Columbia, South Carolina

(Editor's Note—The title on this letter is our editorial policy.)

Cook Forest State Park

EDITOR:

In the course of more than fifty years of general botanical and ecological studies in Western Pennsylvania I have for forty years made frequent trips to Cook Forest. I must say that the article in the February issue of AMERICAN FORESTS does not present a true picture of the situation there.

Virgin white pine timber like that in Cook Forest is a one-generation, light-demanding forest stage of catastrophic origin, following fire or windstorms. In our region it will be succeeded by a climax hemlock northern hardwoods forest type. (Various articles by Jennings, 1928; Morey, 1936; Hough and Forbes, 1943; Ibbertson, 1949; and others).

"Cook Forest Park," established by special Act of the Pennsylvania Assembly, is distinctly not a State Forest, and it differs from the other state parks. Through the Cook Forest Association the public contributed \$200,000 towards its purchase, and, among its purposes as stated in the Act are wholesome outdoor recreation, education, scientific study, the perpetuation and preservation of a portion of the original forests of Pennsylvania, and the preservation and maintenance of distinctive natural views and conditions.

There have developed two schools of thought as to the proper management of the forest. The one school advocates removing deformed, diseased, infirm or dead trees, and also thinning to permit more rapid growth of the more desirable trees. The other school, represented by the Cook Forest Association and a considerable body of informed forest-loving citizens, maintained that, barring fire- or safety-hazards or extreme emergencies, the purposes of Cook Forest Park would be best attained by letting it develop naturally and be preserved as nearly as possible like the original virgin condition without evidences of man's interference. The Act states that one of the purposes of Cook Forest is: "... the preservation and maintenance of distinctive natural views and conditions."

Finally the then Secretary of the Department of Forests and Waters appointed an advisory committee consisting of Dr. Hardy L. Shirley, dean of the N. Y. Forestry School at Syracuse; Dr. Paul B. Sears, head of the Conservation Program, Yale University; and Dr. Christopher M. Granger, retired Assistant Chief, U. S. Forestry Service. The committee, in their report commended the Department's policy and the excellent way in which they had operated. However, evidently having in mind the purposes for which the Cook tract had been jointly purchased by the forest-minded public and the Commonwealth, and that there are already more than 1,500,000 acres of state forests available for professional forestry management, the committee recommended the removal of the sawmill and, in brief, that the forest be left to develop naturally.

The tornado of August 18, 1956, cut a swath through probably the best of the big pines in the two virgin pine areas, but it should be emphasized, contrary to some accounts, that there are many scores of the big pines left to see. As to the "cavernous hole" which Mr. Neal thinks will leave a "never-ending scar," there are various records of severe wind-throw by tornados or hurricanes in that region which have initiated white pine forests. Hough and Forbes (Ecol. Mon. 13:308, 1943) mention plots in Warren County, about 25 miles north of Cook Forest, where white pine timber was initiated by fire about 1644 but "A tornado in 1811 destroyed nearly the whole stand on 33 acres, which again reproduced largely to white pine." Evidence indicates that the big pine timber in Cook Forest also originated in about the 1644 period. If nature follows her usual course for that region the swath of the 1956 tornado should become a white pine forest, another "Cathedral of Pines" for future generations to see.

Considering the fury of a wind which

snapped off the tops of big pines, twisted trunks in two, and laid many of the forest giants low, it is a wonder that any of the trees in its path are left. They were on a rocky slope facing the oncoming storm, with their tops towering above the surrounding forest, and with a shallow root system of surprisingly small area for such tall trees. It is doubtful whether selective cutting would have helped much. The group of five pines with their tops snapped off at a height of 150 feet would probably not have been selected for cutting, although their tops might possibly have damaged other trees when the tornado carried them along.

Considering the purposes for which Cook Forest Park was established, there are objections, too numerous to discuss here, to cutting or disturbing the trees, aside from the purpose of preserving the wilderness or primeval aspect. For instance, every log removed carries away the organic and mineral material which would naturally have reverted to the forest soil. In some French forests the decrease of annual wood increment has brought about the prohibition of fagot gathering by the peasants. Although deemed a necessary emergency measure, the cleaning up in the swath of the 1936 tornado will deprive the none too fertile soil of the humus material and more than five tons of mineral material which would have otherwise eventually returned to it.

The citizens of Pennsylvania are to be congratulated on the fact that out of more than 1,500,000 acres of state-owned timberlands this one tract of about 7,000 acres, Cook Forest Park, is mainly to be left to develop naturally, becoming each year more like the primeval forest of our forefathers.

O. E. Jennings,
Director Emeritus,
Carnegie Museum;
Retired Head,
Dept. Biological Sciences,
University of Pittsburgh

A Plea for Reason

EDITOR:

We were greatly concerned by the recent article "The Forest Service and Recreation" written by Harry C. James, President of the Trailfinders. By indirection, Mr. James may have left the uninformed reader with some erroneous impressions.

The author implied by hearsay evidence that the national forests are being mismanaged, that foresters have demonstrated a lack of interest in the recreational resource and many treat it with contempt.

These implications that the Forest Service is not doing the job it could be doing under present conditions are not well-taken. Mr. James' statements of praise concerning fire-fighting ability, or devotion to public interest do not mollify his previous, strongly pointed arguments against the Forest Service.

Many problems attendant to managing the recreational resource are discussed in the January, and past issues of AMERICAN FORESTS. Several points are worthy of note: recreational use of forests is increasing at an unprecedented rate; appropriations have been wholly inadequate to support this increase in use; there is an extreme shortage of foresters. All of these conditions have contributed to situations which are undesirable. Administrators are vitally interested in these problems and are working for adequate personnel and recreational facilities.

In criticizing Forest Service employees, Mr. James either does not know or over-

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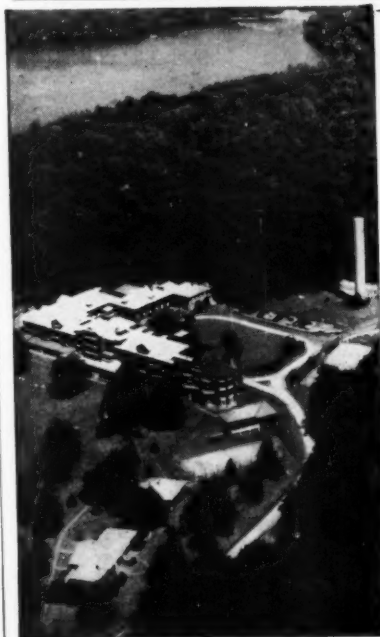
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looks the fact, that a good deal of recreation maintenance and improvement has been carried on by foresters at the expense of other activities. Thus far all efforts of the Forest Service have failed to secure adequate appropriations for the development and maintenance of recreation facilities. Money has been so short for this purpose, that it has been impossible for the Forest Service to properly maintain the campgrounds built by the Civilian Conservation Corps over 20 years ago. In 1955 the Forest Service had to face tremendous growth in recreational use of the national forests, yet there were only small increases in appropriations. For example, 27 million recreationists used these forests in 1950 as against 46 million in 1955.

Contrary to Mr. James' statements, interest in forest recreation among professional foresters is high and is increasing in proportion to the demand for this type of service. Lack of funds or personnel does not imply lack of interest. The forester must allocate his time so that the best interests of "all the people" are served.

Mr. James carries his indictment to forestry schools where he says that men have taken courses at leading forestry schools and that "they had never heard recreation mentioned in their courses except in tones of contempt." This sweeping indictment cannot be supported. In our thousands of professional contacts we have rarely heard a forester treat recreation in contempt. It is true that many foresters develop specialties outside the area of forest recreation, but for a forester to teach forest recreation in "tones of contempt" is unbelievable. The foremost precept of professional forestry is public service in all branches of forestry.

The "contempt" charge by Mr. James is also applied to Dean W. F. McCulloch of the School of Forestry at Oregon State College. Mr. James would be on firmer ground if he had not extracted from Dean McCulloch's private remarks, just the segment which displeased him. He neglected to include the following statements which were a part of the same talk. . . "The motivation of working for the common good can be made a drive as powerful as the profit incentive. . . to achieve these goals requires tact, tolerance and human understanding. . . Forestry objectives must be so clearly in the service of the public that they will merit public support, financial as well as moral." These quotations more fairly state Dean McCulloch's position. As a professional forester he is sincerely convinced that the forest must yield the greatest good for the greatest number in

the long run. In defense of this belief he opposes extremists on both ends—those who would set aside unduly large areas of commercial timberland for the limited use of a few, and those who would exploit large areas for the personal gain of a few.

Dean McCulloch has strongly supported the principle of multiple use of forests, and recreation use as one of its tenets. Students in the School of Forestry at Oregon State College have course offerings in forest recreation, and the importance of this subject is emphasized in other courses. Visiting speakers are brought to the campus to further impress student foresters on their responsibilities in recreation. The school is proud of its graduates who hold high positions in the field of forest recreation in both the Forest Service and Park Service.

There is need for compromise in the public interest, but extremists can see only their own point of view. It is no compromise to adopt the position that anyone who disagrees with me is automatically wrong, whether the question be recreation, taxation, or any other problem.

The problems of resource management are complex. There is no panacea for solving problems of resource management and use where so many diverse factors must be reconciled before a decision is reached. Sentiment is frequently a strong force in initiating desirable changes in conservation practices, and as such has an important place in multiple-use management of the forest resource. However, sentiment divorced from reason and sound judgment based upon facts can only serve to complicate and not facilitate wise management. It would behoove all of us to work together for the common good rather than choosing independent lines of action based on our own special interests or experience. Lack of progress and misunderstanding must follow when the latter course of action is taken.

James T. Krygier
Warren R. Randall
Geo. H. Barnes
Professors of Forest Management
School of Forestry
Oregon State College

Preston Praised

EDITOR:

Congratulations to John F. Preston for "Preston Takes Issue with Talks at La-Plata."

As a "farm forester," I am in full accord with Mr. Preston and believe that much more can and should be done to educate and assist the small operator. It is frequently said that small business is the backbone of our national economy. If this is correct, it should have a similar meaning when applied to forestry.

J. N. Borglin
215 W. 37th Street
Wilmington, Delaware

What Happened in Arizona?

(From page 15)

a purely saw log economy. A thirty-year supply of pulpwood, to provide part of the raw material for a paper and pulp project, was obtained by Southwest by public bid from the Forest Service on February 28, 1957.

Marking, on all lands, is at present being carried out by the Forest Service under a cooperative agreement. The Forest Service is also handling the fire protection and slash disposal on these lands under this agreement. Since the lands are inter-

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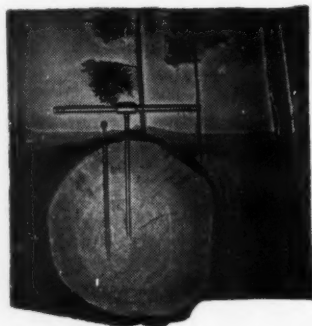
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mingled or checker-boarded with Forest Service lands, and the timber will be cut concurrently with federal timber, the company and Forest Service officials work together in matters of road development and logging practices.

Under an additional contract, the Forest Service performs the range management function for Southwest. The terms under which range lands are leased to cattlemen are the same as those prevailing on public lands managed by the Forest Service.

The Aztec lands remain open to hunters and fishermen in the same degree as federal lands. There have been and are no plans to establish private preserves. Relations between game and wildlife groups and Southwest are harmonious, in the opinion of the company.

Officials of Southwest serve on the Arizona Water Resources Committee, a group organized to promote water conservation and the development of water resources, as well as on advisory committees of government agencies dealing with forest and watershed research.

Last October, 69,000 forested acres of the Aztec purchase were dedicated as a tree farm. Southwest expects to continue to manage the lands under tree farm principles.

J. B. Edens
Southwest Lumber Mills, Inc.
Phoenix, Arizona

Editor's Note—As a straightforward answer, we believe that readers will agree that Mr. Edens' reply could scarcely be improved upon. An analogy might be drawn here that some enlightened Northwest company (or companies) might purchase the Klamath lands and 1) make certain the lands are managed intelligently and 2) make sure the Indians are properly provided for.

However, other questions arise. One is that it is questionable that any firm or firms could buy the land in Oregon and provide the Indians with what they will consider a just price. To do this, it seems almost certain that the lands will be sold and cut on small contracts. What, then, is happening in Arizona as regards some 8,000 acres of Aztec lands sold to firms other than Southwest? The answer is that apparently they are in the process of liquidation—with no snags felled, no slash disposal, and logging roads built with little or no regard to drainage. A similar situation could easily arise in the Klamath case if the making of money is the sole objective in a cutting program.

Finally, there are additional questions that arise in the lay mind in reference to the disposition of the Aztec lands. Recalling Dr. Chapman's statement that this is a land of very slow timber growth, the question arises as to whether a 60 percent and in some cases an 83 percent cut is sound management policy on former national forests where the cut previously was around 35 percent. In short, does this mean that the Southwest cut is "too heavy" or that the previous Forest Service cut was "too conservative?" Another question arises as to whether former land uses in the area are today receiving the same consideration as previously? And finally, can a management program in the Southwest properly be compared with a management program in the Northwest?

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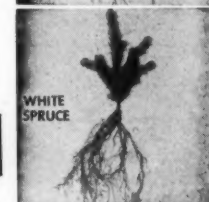
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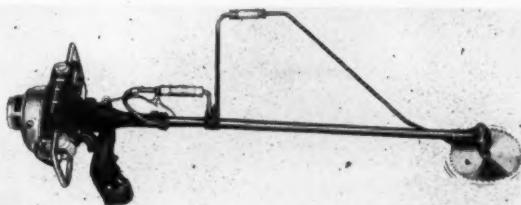
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Forest Industry Looks Ahead

Forestry is basic to the economy of the Pacific Northwest and consequently foresters in the nation are displaying keen interest in a conference sponsored by the Pacific Northwest Trade Association April 14, 15 and 16 at Portland's Multnomah Hotel on the theme "Our Forest Industry Looks Ahead."

Since World War II a real working partnership has evolved between the profession of forestry and forest industry in the nation. Both are dependent on each other and consequently forestry today is vitally concerned with industry's plans for the future and how well those plans are understood by the public at large.

Some of the questions to be taken up at Portland are "Will the forest industry increase or decrease in importance in the years ahead?" "What new forest products can we anticipate?" "How realistic is it to anticipate a new chemical industry utilizing present waste products?" "How effectively are we managing our forests on a sustained-yield basis?"

These questions to be discussed by top foresters and industry executives all boil down to the basic question as to how forest industry can best be "sold" to the American public and here the delicate balance of public opinion hinges chiefly on the two questions: 1) is industry a "good citizen;" 2) is industry wisely managing its own timber and also looking after the long term interests of small owners from whom it purchases wood.

Most foresters agree progress has been made on both counts, especially since World War II. All industry has become much more "community minded" since the war and the effort has paid off in a more stabilized labor force in most parts of the country. And while it is not fully appreciated even yet, industry has made spectacular gains in the field of forest management which are destined to continue if we can supply the foresters to do the job.

However, as industry leaders in the Northwest and elsewhere are well aware, there is still much to be done and every year finds more of industry broadening its base of operations to include such previously

foreign fields as recreation and wildlife management programs. Thus more and more of the industry continues to inaugurate its own "multiple use" program and all it asks in return is consideration on the part of the people who make use of its forestland.

The South, which today has its own peculiar problem in reference to resentment to large industrial ownerships, faces a major public relations job on this score. One of the most practical suggestions made yet was that of Judge E. Harris Drew, Chief Justice of the Supreme Court of Florida, at the Southern Forest Fire Prevention Conference a year ago this month.

Judge Drew said, "Don't forget to look at this problem from the standpoint of the little men. I would suggest to holders of vast holdings that they give careful consideration to some plan whereby the small people would be permitted to use these lands for hunting and fishing." Judge Drew also suggested in his much-quoted talk that he wasn't sure the industry always had its sense of values straight. He urged less talk about money and more talk about things—things (or values) that mean something to the members of the average family.

It is probably significant that a number of southern industries have already taken Judge Drew's advice on this.

These are some of the very vital questions that will be discussed at the Portland meeting as the industry takes stock of itself and plans for the future. Some of the speakers will be Bernard L. Orell, vice president, Weyerhaeuser Timber Company; Leonard R. Andrews, vice president, British Columbia Lumber Manufacturers Association; T. G. Willis, Superintendent of the Dominion Range Experiment Station, British Columbia; Ervin L. Peterson, Assistant Secretary of Agriculture, Ray Williston, Minister of Lands and Forests, Province of British Columbia, Chester P. Lyman, assistant forester, British Columbia Forest Service, Hugh A. Smith, Seattle marketing and public relations counsel; and Marshall N. Dana, of the United States National Bank, Portland.

Exclusive Use or Multiple Use?

(From page 7)

the Chief of the Forest Service who will submit it with his recommendations to the Secretary."

The thoroughness with which the Forest Service has administered its wilderness program may be determined from the official records of the past 18 years. In that time eight new wild areas have been established, 27 primitive areas have been reclassified to higher use, and the total area set aside for the exclusive enjoyment of wilderness enthusiasts has been increased to 14 million acres. Current proposals for additional wild and wilderness areas aggregate 348,000 acres. Only two wilderness classifications have been revoked, one necessitated because of its inclusion in the Olympic National Park and the other because private mining activity rendered the area unfit for wilderness purposes.

Why then do wilderness enthusiasts desire the Secretary to report to a National Wilderness Preservation Council? The answer is obvious. It is so that recommendations contrary to their wishes can be short-circuited.

As long as I am being suspicious, let's go back to the provision in H.R. 500: "The council shall make such recommendations to Congress as the council shall deem advisable;" and the judge's comment, "I assume that this is as far as we could have hoped to go at the present time."

If H.R. 500 is enacted as now drafted, it is likely that the council may soon discover administration of wilderness within the four bureaus is quite varied; in which case the council might seek authority to coordinate the several programs, thus acquiring administrative powers.

Then will it occur to someone that administration should be under a single agency? And as long as it is to be in a single agency, why not have national wilderness administration coordinate with national forests and national parks but overlapping on the ground.

And long before we reach the last stage, what are we likely to have? Chaos! Such an effort will bestir forest industries to protect their interests, other recreationists, frozen out of park and wilderness areas must have special consideration, livestock must be protected from the encroachment of big game. Multiple

use will be a thing of the past—replaced by "single and exclusive use on a perpetual basis." The proponents of a National Wilderness Preservation System, though sincere and dedicated people, have not thought the matter through.

What then does The American Forestry Association suggest? It recommends plain, unadorned recognition of wilderness, and other uses not presently covered by legislative authority, as major purposes of forest administration.

Such recognition is provided in H.R. 3831 by Representative George M. Grant as follows:

"That it is the policy of Congress that all of the resources of the national forests and other lands under the administration of the Forest Service, Department of Agriculture, shall be so managed, conserved, utilized and developed as to assure maximum public multiple use thereof; that public use for purposes of recreation, including hunting, fishing and wildlife habitat enjoyment is a beneficial and proper use of such lands; that development and maintenance of areas and facilities, including safety and sanitation for public use, that the development, maintenance and coordination of wildlife habitat with other resources; that maintenance of wilderness areas; and that the concurrent maintenance of other forest values, including sources of water, is a proper function of the Secretary of Agriculture."

On February 15, 1957, the Directors of The American Forestry Association formally endorsed H.R. 3831.

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Revolution in Timber Cruising

(From page 34)

er members of the Southern Forest Experiment Station lent powerful aid.

The first of these was David Bruce, then in charge of the station's research on longleaf pine in the central gulfcoast region. He developed an improved angle-gauge.

The original gauge was merely a stick with a crosspiece on the far end, although optical devices with milscale graduations were also available. Such gauges are accurate enough, but are awkward to use and carry, and easily knocked out of adjustment.

Bruce had dabbled in optics, and he thought of using a glass wedge prism for an angle-gauge. A prism shifts the image of anything viewed through it. The drawing illustrates the principle: a tree is counted if the image of the trunk as seen through the prism overlaps the trunk as viewed by the naked eye over the prism; it is ignored if there is no overlap. Prisms come in a variety of strengths, so that any desired angle can be duplicated. The 104.18-minute angle mentioned above is equivalent to 3.03 prism-diopters.

Prisms were just the instrumentation that point-sampling needed. They are compact and easily carried—they need be only about $\frac{3}{4}$ by $1\frac{1}{2}$ inches in size. They do not have to be held at any specific distance from the eye, though it is important that they be kept directly over the sampling point. An unsteady hand gives little trouble, for the image of the tree remains still even though the prism wobbles. Finally, sighting is often easier and more accurate because the eye is focused on a single

horizontal line of sight and on a single vertical line.

In further work, Bruce invented a way of using a pendulum to rotate the prism around the line of sight and thus compensate for sloping terrain (a different type of rotation had been devised by Bitterlich to compensate for slope with the stick-type instrument). Bruce also devised two types of telescopic angle-gauges.

Later, he found that his basic idea of a prism, but not of slope-compensation, had been anticipated by another Austrian, Dr. Gustav Müller. This fact by no means negates Bruce's contribution. He had worked out the use of prisms before Müller's findings appeared in print. Just

GUTERMUTH HONORED

The Wildlife Society last month presented its highest award, the Leopold Medal, to C. R. Gutermuth, vice president of the Wildlife Management Institute. The award, in recognition of "distinguished service to wildlife conservation," commemorates the late Aldo Leopold, considered by many the father of wildlife management in North America. The citation to Mr. Gutermuth read by President Durward L. Allen read in part, "This man's record is one which few people could find the will, the courage and the strength to emulate." The Wildlife Society is an international organization of wildlife and fishery professionals.

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as important, he had introduced prisms to many American foresters who would otherwise not have become acquainted with them until much later. Bruce's magnifying instrument with slope-rotated prisms will probably be the popular angle-gauge and hand-held dendrometer of the future.

While Grosenbaugh and Bruce were making point-sampling more useful and easier, they received aid and comfort from Philip R. Wheeler, chief of the Southern Station's Division of Forest Economics and top

boss of the Southern Forest Survey.

Wheeler's interest had a practical basis. In mid-1954 the survey was just laying plans to complete its work in the timbered eastern counties of Texas. The Texas Forest Service, together with private industries and individuals within the state, had pledged generous help. It would be possible, Wheeler thought, to take a point-sample at each location where the survey took its traditional pair of 1/4-acre plots. If point-sampling proved feasible in Texas, it could be adopted as standard procedure, with obvious savings in time and money.

The work in Texas began in late 1954 and was completed in 1955. Point-samples were taken at 655 locations on a 3- by 3-mile grid through 12 counties. The samples represented a timbered area of almost 4 million acres.

When the results rolled off the tabulating machines the data from the conventional plots and the point-samples were very similar—astonishingly so. Figures for basal area and cubic volume checked to within 1/10 of 1 percent, and board-foot volumes were hardly more than 1 percent apart. All of these differences were considerably less than the sampling error that could be expected from such comparisons.

No less gratifying was the efficiency of point-sampling. Wheeler calculated that point-sampling could have done the job for about 75 percent of the labor and cost required by the conventional method, since 1 man could sample all but the most difficult or dangerous points. With conventional survey methods, two-man cruising teams were invariably needed.

On the strength of this test, Wheeler rewrote survey's operating manual. Eastern Oklahoma, the last region to be covered in the second timber inventory of the mid-South, was the first to be cruised by point-sampling.

What's the status of point-sampling today? Well, the conventional sample-plot technique is still widely used, but it has competition in many localities now.

The Texas trial was a real clincher, but even while it was being made, cheering reports began to come in from other places. Many of the original woods-going foresters had gotten good results from the start, and had told their friends. Prisms boomed the cause. Doubters began to concede that point-sampling wasn't necessarily biased.

Today several prominent consulting firms are using point-sampling, and the method is being applied increasingly to experimental work. It is taught at most forestry schools, some of which hold special seminars on it. The U. S. Forest Service and many state organizations are using it in their daily jobs.

And the Forest Survey? It's working in Mississippi, beginning its third grand sweep of the forests of the mid-South. It's strictly a points-and-prisms affair, with men working singly except in the hard places. Many of the cruisers are new to the work, being loaned to the survey for short periods by cooperating industries or the state forest service. Moreover, they are being asked to collect much more information about the forest than earlier surveys attempted to get. The men have no trouble in picking up the technique and doing accurate work. And the speed at which the job is going is phenomenal.

Sometimes the old hands reminisce about the days when, with an assistant, they'd flounder through the underbrush with a steel tape, laying out the boundaries of a 1/4-acre plot. That was sort of pointless, eh? Long time ago, of course.

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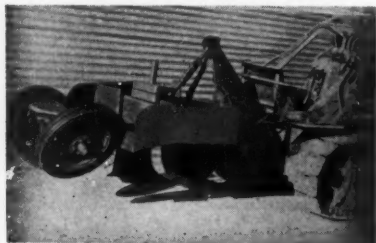
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Disputing Warriors • By JESSE STUART

WE had driven back to our land of the sky on Seaton Ridge to pick more huckleberries, when I walked across the alfalfa to our old sheep barn. I wanted to see if the high winds had blown the barn doors open again. I wanted to see how everything looked inside the barn too, since Hubert and I had cleaned this barn months ago. I opened the small door and started through the stalls on the east side. I stopped at a pile of tobacco sticks and picked up one. I thought I might need a stick. Then, I walked over about midway of the barn and here I stopped suddenly. It was through that inner sense of caution, given a man for his own protection, the reason I stopped. For here lay a big, fine looking, bull blacksnake.

"So, old fellow, you've crawled inside the barn to get cool," I said, drawing my tobacco stick up over my head. I planned to let him have it. "You blacksnakes just won't stay

out of this barn. You must believe there are birds in here."

Something kept me from coming down on this beautiful snake with my tobacco stick. I knew he had come inside this barn for a purpose. I thought that purpose was to get himself out of the hot sun and to crawl over the soft barnfloor which was a treat to his soft under-belly. He'd been crawling over the stones, briars, grass and the rough earth. This barn was a paradise for him. Then I brought my tobacco stick down with ease and leaned on this as if it were a cane. I looked the big bull blacksnake over. He looked at me too with his black little beady eyes. He was a friendly big fellow. His being friendly paid off for him, for I still held my tobacco stick, a deadly weapon in my hands for snakes. But old bull blacksnake didn't even offer to crawl away.

There wasn't a birds' nest anywhere. So I was positive, he hadn't come for a mess of young birds. However, I felt he had come to this barn for some purpose. But he didn't coil to strike me. I didn't offer to hit him. He seemed to say: "Let's be friendly this time." And I was willing to be friendly with him. The larger the blacksnake, usually the friendlier one is. Never will a blacksnake attack a person. Never will one bite a person unless hemmed in and made to fight for his life. Then one's bite is harmless. "You're too pretty to kill," I told him. "I'm going to leave you." So I walked on.

I hadn't walked ten feet until I looked under the manger and here lay coiled, ready for action, a beautiful copperhead. He was short, thick and powerful. His tail was so blunt, I thought it might have been chopped off with a hoe once on a time. But a blunt tail is the true mark of a copperhead. He was the color of an old copper penny. I knew here lay a dangerous snake and I gripped my tobacco stick. I was ready for action if this snake even pretended to move. I thought he was waiting for me to take another step so he could let me have his fangs in my leg. But I didn't take the other step.

Now, I knew why bull blacksnake was in this barn. I knew he had come for a reason. Now, I knew

(Turn to page 71)



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What's NEWS across the nation

DR. HENRY T. SKINNER, director of the U. S. Department of Agriculture's National Arboretum in Washington, D. C. has announced that a number of new and highly desirable shade and ornamental trees for home and street planting are now being developed in nurseries and botanical gardens throughout the country. Many of the excellent shade and ornamental trees now on the market are limited in use because of their special soil and climate demands. The new controlled breeding programs promise to produce more adaptable trees for the future.

CROWN ZELLERBACH FORESTERS EXPECT TO GET MORE WOOD FROM EACH ACRE on their tree farms in Wahkiakum and Pacific Counties of Southwest Washington. Responsible for this increased timber yield is the new stationary chipping plant designed to utilize pulpwood and small logs. This plant is the first installation in the West built specifically to operate on logging residuals that could not otherwise be used economically. E. P. Stamm, C-Z vice president for Northwest timber operations, said that this installation at Deep River provides another big step forward in forest management and increased wood utilization in the region.

FLOYD IVERSON SUCCEEDS CHESTER J. OLSEN as head of the Intermountain Region of the Forest Service at Ogden, Utah. Mr. Olsen retired April 1, after 37 years with the Forest Service. Of Mr. Olsen's retirement, Forest Service Chief McArdle said, "Mr. Olsen has served every step in the Forest Service career ladder, from forest ranger to regional forester, with distinction." For his outstanding contributions to rural life and the conservation of natural resources, Mr. Olsen in 1955 received the Department's Superior Service Award. Mr. Iverson's position as head of range and wildlife management in that region will be filled by William D. Hurst, assistant chief of the Division of Range Management in Washington, D. C. since 1955.

MICHIGAN DEPARTMENT OF CONSERVATION announced that timber sales from Michigan state forests set an all-time record during 1956 as \$760,387 worth of timber was marketed. The total was 28 percent over the previous record high of \$595,245, established in 1955.

A NEW WOOD FIBER PRODUCT was introduced to the nation's building industry last month by the Minnesota and Ontario Paper Company's Insulite Division. Paul A. Mahony, vice president in charge of sales, said the new product is called Insulite Primed Siding. "It looks like wood," he said, "feels like wood and works like wood, yet has none of the disadvantages of wood. The new product, made from native Minnesota aspen, has no structural or surface grain, no knots, and no slivers. It will not split or crack from nailing."

THE 44TH NATIONAL CONVENTION OF THE NATIONAL RIVERS AND HARBORS CONGRESS will be held in Washington, D. C., at the Mayflower Hotel. May 17th and 18th, with Projects Committee hearings on Thursday, May 16th. William H. Webb, executive vice president of the congress said, "The year 1957 should be the year of fulfillment in our long campaign for adequate control of the destructive flood waters, and the conservation and development of our water and land resources." The congress has a traditional interest in promoting the control of floods and the improvement of harbors and waterways, and is taking an interest in many other aspects of the water problem.

WARREN B. BULLOCK, manager of the Import Committee of the American Paper Industry retired last month after 33 years with this paper industry committee which he established. He had been with the American Paper and Pulp Association for three

(Turn to next page)

years prior to the establishment of the Import Committee, and has been its only manager since its origin in 1924. The Import Committee under Mr. Bullock's direction has been an effective instrument in checking unfair foreign competition affecting every grade of the paper and paper board industry production, according to the APPA release.

FORTY-THREE FISH HABITAT IMPROVEMENT PROJECTS in 28 Minnesota counties have been scheduled for 1957. George A. Selke, Conservation Commissioner said they include 23 lake improvements, 13 stream improvements and six lake reclamation projects.

GAIR WOODLANDS CORPORATION, Savannah, Georgia, has announced that it will continue its scholarship program of annually providing two forestry scholarships, totalling \$2,000 each. Each scholarship is for \$500 per year for four years of study in the field of professional forestry. This is the fourth consecutive year the corporation has offered these scholarships to outstanding high school graduates in states where the corporation owns timberlands. In announcing these scholarships, T. W. Earle, president of Gair Woodlands Corp. said, "Through these scholarships, it is our hope to attract and encourage capable high school graduates to enter the rapidly expanding field of professional forestry in the South."

A NEW VENTURE INTO FUNDAMENTAL RESEARCH, a partnership between industry and the academic world, has come into being with the establishment of the Cellulose Research Institute at the State University College of Forestry at Syracuse University. The director of the new institute is Dr. J. J. Hermans, professor of physical chemistry and director of the laboratory for inorganic and physical chemistry at the University of Leiden, Netherlands. Dr. Hermans is an internationally known authority on the chemistry of macromolecular substances.

SECRETARY OF THE INTERIOR FRED A. SEATON has approved extension of the boundaries of Pipestone National Monument in Pipestone County, Minnesota, to embrace an additional 165.80 acres of federally owned lands. The addition gives the monument an area of 281.66 acres. The added lands contain important archeological remains of the aboriginal Indian pipestone quarries. For centuries the area was regarded as neutral ground of sacred importance to the Plains Indians and other tribes who gathered there in peace to quarry the unusual red stone from which they fashioned the bowls of their pipes of peace.

"INCREASING INTEREST IN TREE FARMING OF PRIVATE FORESTS in western Oregon and Washington is apparent," said Nils B. Hult, president of the Industrial Forestry Association. "In the Douglas-fir region there are now 4,942,248 acres in 398 different properties devoted to permanent forest management under the tree farm banner," he added.

CHESTNUT GROWING IS ALL SET FOR A COMEBACK in Michigan, according to a University of Michigan forest pathologist, who has developed two winter-hardy, blight-resistant, high-yielding Chinese chestnut trees after 30 years of tests with more than 2,000 seedlings. "These two," says Professor Dow V. Baxter, "are immediately sure of success in Michigan." Professor Baxter views the chestnut's case history as an example of the need for disease prevention in the conservation of natural resources. By exterminating the chestnut, blight did what no forest fire has ever been able to do, he says. "No forest fires, regardless of how big or disastrous, have ever wiped out a forest tree from its commercial range."

THE NATIONAL LUMBER MANUFACTURERS ASSOCIATION AND FARM JOURNAL MAGAZINE have joined in sponsoring a 1957 rural home improvement contest featuring \$10,000 in cash prizes. The contest, designed to spur sales of lumber and wood products and improve farm living, is open to anyone who completes an addition, remodeling or similar home improvement project between January 1 and October 31. Applications for official entry blanks may be obtained at retail lumberyards, or from FARM JOURNAL, Philadelphia 5, Pennsylvania.

SOME OF THE NATION'S TOP LEADERS in industrial forestry attended ten days of special seminars sponsored by the Yale School of Forestry at New Haven. These industrial forestry seminars brought together executives in this field from all parts of the country and Canada to sit down as "students" and learn new developments in their work. Four of the seminars have been held at Yale in the last two years and a fifth was held this last January under Yale's sponsorship at the University of California. More than 100 forestry management and woods products leaders have attended the seminars so far, according to Dean George A. Garratt of the Yale Forestry School.

Disputing Warriors

(From page 68)

what that reason was. Only a few feet separated him and his greatest enemy. I wondered if he had smelled this copperhead. I wondered why he had followed through to spearhead his attack! Could he smell the copperhead like a human being with a good nose can smell one. One smells like cucumbers on a hot day. A person can hardly miss the smell of a copperhead.

I had planned to kill you, I thought as I stood looking at this copperhead. I was still gripping my tobacco stick. But I am not going to kill you either. I am going to leave you right where you are. So I relaxed the grip on my tobacco stick and I stepped back one step toward bull blacksnake. I stood between these reptile enemies. And I could have killed both of them. But I made up my mind not to do it now that I knew why bull blacksnake was in this barn. Had bull blacksnake not been here I would have killed the copperhead.

Somewhere, I thought, was old bull blacksnake's wife, a long female blacksnake. She was probably down under the ridge among the high cliffs. And somewhere she had deposited from ten to thirty eggs with soft tough shells in a hole in the loam. Perhaps she and old bull blacksnake were waiting for the hot sun to hatch these eggs. Maybe, they'd already hatched and from ten to thirty little blacksnakes who were getting their soft under-bellies toughened up crawling and playing over the rough land. But since this ridge-land of tall yellow pines, sandstone cliffs, and huckleberry patches was the home of the copperheads, then the blacksnakes had fear for their young in this land of their enemies.

One of these young snakes, smaller in circumference than my little finger, wouldn't have much of a chance with a deadly copperhead, one lying in wait like the one under the manger. So, perhaps, old bull blacksnake was clearing this ridge-land of his enemies which were my enemies too. He was making this ridge country a safe place for his posterity. So I certainly wouldn't bother him now. I was so happy I hadn't bothered him. And I was happy I hadn't killed the copperhead. If bull blacksnake had tracked

him down, if he had winded him in the air, this was his snake. He should be left alone for old bull blacksnake to kill. I would not interfere.

But while standing in this barn another idea came to me. If and when the copperheads got too thick on this ridge where we no longer let forest fires burn over every spring to kill them and destroy the timber as our neighbors had once done, I had another idea for the elimination of the copperhead. If it were possible, I would order a barrel or more of blacksnakes and turn them loose on this ridge. Life, then, would be unbearable for the copperheads. In the question of survival between these two species of snakes, the one with the greater number would survive. And if one were to survive I favored the bull blacksnake. At least this was an idea. And why wouldn't it work?

Bull blacksnake among the huckleberry vines was harmless. He wouldn't bother anybody. He'd crawl away when he heard the huckleberry pickers' feet rattling the pine needles and their hands swishing among the huckleberry vines. He didn't want to bother a human being. One of us was not his enemy. In fact, he became a very fine pet if and when one took the pains to fondle him a bit and carry him around. He liked to be a pet, caressed, and loved. But try to pet a copperhead and this was something else! Only a madman would do this! I was on blacksnake's side.

Since I had to be on my way to pick more huckleberries, I did one little thing before I left. I encouraged bull blacksnake with my tobacco stick to move over a little closer in the direction of the copperhead. He was hard to usher over. He went very cautiously and slowly. I didn't force him to go too far. I gave him a good chance to coil his long powerful body and to get ready for the fight that would soon come. I wanted him to fulfill his mission. I would have waited and looked on but it might have been an hour or so before the battle. I left these disputing warriors alone in my barn to battle it out for supremacy. I knew in advance who would be the winner. This was the only reason I had not used my tobacco stick.

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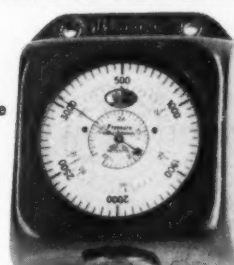


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Feature Photo of the Month

Photos used on this page will be of unusual rather than esthetic qualities and subject matter will be restricted to scenes, events, objects or persons related to the use, enjoyment or unique aspects of our renewable natural resources. For each picture selected AMERICAN FORESTS will pay \$10



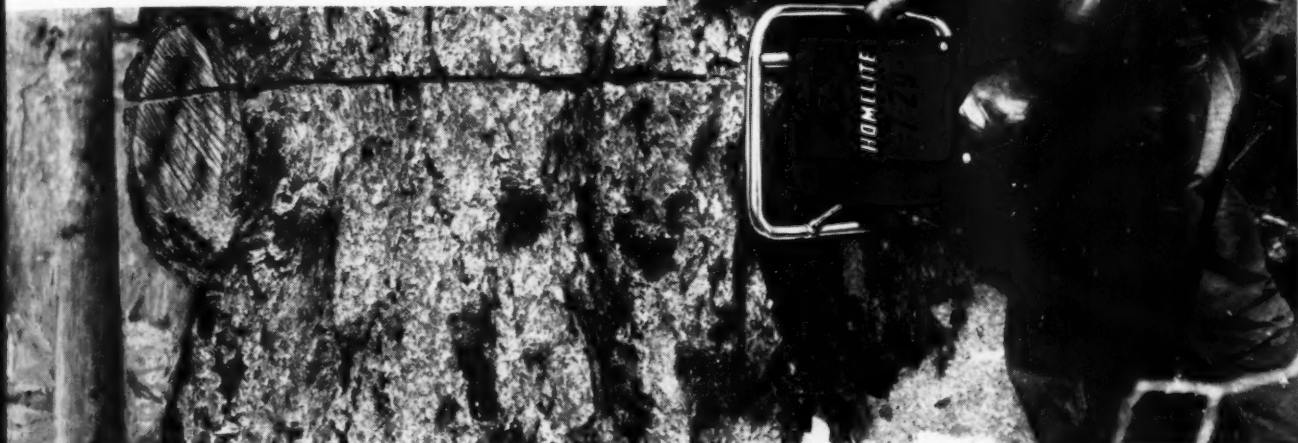
The Quebec North Shore, from Seven Islands to the Straits of Belle Isle, is bilingual. Even the fire warnings are printed in three languages, French, English and Montagnais (bottom). This printed language is also used by some of the Eskimos in the northern parts of the Labrador peninsula. But they all tell the same story—be careful with fire!

Photo submitted by A. M. Leitch, Outdoor Photographers League

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The place: Brewton, District 11 Headquarters of Alabama's Department of Conservation, Forestry Division. The fire: surface and underground in a swampy area covering some 65 acres of virgin timber. The date: October, 1954.

4:36 P.M. the 22nd: Fire reported. Because of adverse conditions, men were unable to pinpoint the blaze in the swamp that night.

8:56 A.M. the 23rd: Crews were on the fire, fighting it with a light tractor and hand tools.

6:30 A.M. the 24th: The D2, just made available, was sent to the fire. There was a period of scouting and

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